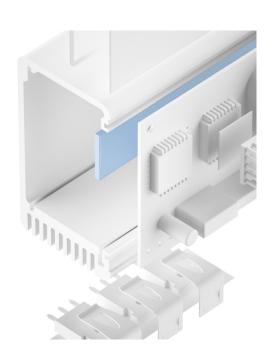
KØLEPROFILER

TERMISK LEDENDE MATERIALE





GAP FILLER SILICONE





SILICONE GAP FILLER PAD TGF-M-SI

SOFT, FLEXIBLE

TGF-M-SI is an electrically insulating thermally conductive silicone gap filler. It is ideal for use in applications where thermal transfer over large gaps caused e.g. by big tolerances or different stack up heights must be achieved. Due to the specific formulation and filling with ceramic particles the silicone elastomer has a very high thermal conductivity. Through its high softness and flexibility the material perfectly mates to irregular surfaces thus filling gaps at low pressure. By its use the total thermal resistance is minimised. The natural tackiness of the material allows for an easy and reliable preassembly.



PROPERTIES

- Soft and compliable
- Thermal conductivity: 2.5 W/mK
- · Operates at low pressure
- Extraordinary chemical resistance and longterm stability
- Shock absorbing
- · Easy mounting through self tackiness
- · One or two-side self-tacky

AVAILABILITY

- Sheet 480 x 460 mm (Thickness 0.5 /1.0 mm)
- · Sheet 460 x 460 mm (Thickness 2.0 mm)
- Sheet 450 x 460 mm (Thickness \geq 2.5 mm)
- Tacky on both sides
- · (TGF-MXXXX-SI)
- · Tacky on one side
- · (TGF-MXXXX-SI-A1)
- · Die cut parts
- · Kiss cut parts on sheet

APPLICATION EXAMPLES

Thermal link of:

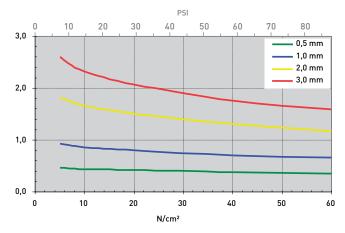
- SMD packages
- Through-hole vias
- Capacitors
- Electronic parts to heat pipes For use in Automotive applications / Laptops / Medicine engineering/ Industrial PCs

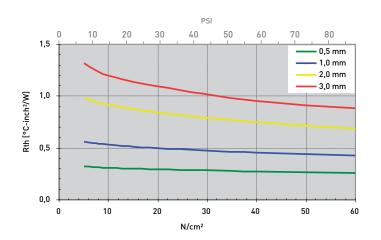
PROPERTY UNIT TGF-M0500-SI TGF-M1000-SI TGF-M2000-SI TGF-M3000-SI

MATERIAL		Ceramic filled silicone	Ceramic filled silicone	Ceramic filled silicone	Ceramic filled silicone
Colour		Light blue	Light blue	Light blue	Light blue
Thickness	mm	0.5 ±0.05	1.0 ±0.10	2.0 ±0.20	3.0 ±0.30
Hardness	Shore 00	50	50	50	50
UL Flammability	UL 94	VO	V0	V0	V0
RoHS Conformity	2015 / 863 / EU	Yes	Yes	Yes	Yes
THERMAL					
Resistance ¹ @ 60 PSI @ Thickness	°C-inch²/W (mm)	0.27 (0.38)	0.45 (0.71)	0.75(1.31)	0.96 (1.76)
Resistance ¹ @ 30 PSI @ Thickness	°C-inch²/W (mm)	0.29 (0.42)	0.50 (0.80)	0.84 (1.50)	1.09 (2.07)
Resistance ¹ @ 10 PSI @ Thickness	°C-inch²/W (mm)	0.32 (0.45)	0.55 (0.90)	0.95 (1.75)	1.26 (2.46)
Thermal Conductivity ¹	W/mK	2.5	2.5	2.5	2.5
Operating Temperature Range	°C	- 60 to + 180			
ELECTRICALLY					
Dielectric Strength	kV / mm	10	10	10	10
Volume Resistivity	Ohm - cm	1.0 x 10 ¹¹			
Dielectric Constant	@1kHz	5.2	5.2	5.2	5.2

Measurement technique according to: 'ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information.

Thicknesses: 0.5 mm / 1.0 mm / 1.5 mm / 2.0 mm / 2.5 mm / 3.0 mm







SILICONE GAP FILLER PAD TGF-M-SI

SOFT, FLEXIBLE

TGF-R-SI is an electrically insulating thermally conductive silicone gap filler. It is ideal for use in applications where thermal transfer over large gaps caused e.g. by big tolerances or different stack up heights must be achieved. Due to the specific formulation and filling with ceramic particles the silicone elastomer has a very high thermal conductivity. Through its high softness and flexibility the material perfectly mates to irregular surfaces thus filling gaps at low pressure. By its use the total thermal resistance is minimised. The natural tackiness of the material allows for an easy and reliable preassembly.



PROPERTIES

- · Soft and compliable
- Thermal conductivity: 3.0 W/mK
- Operates at low pressure
- Extraordinary chemical resistance and longterm stability
- Shock absorbing
- · Easy mounting through self tackiness
- · One or two-side self-tacky

AVAILABILITY

- Sheet 480 x 460 mm (Thickness 0.5 /1.0 mm)
- · Sheet 460 x 460 mm (Thickness 2.0 mm)
- Sheet 460 x 450 mm (Thickness 3.0/4.0/5.0 mm)
- · Tacky on both sides (TGF-MXXXX-SI)
- Tacky on one side (TGF-MXXXX-SI-A1)
- Die cut parts
- · Kiss cut parts on sheet

APPLICATION EXAMPLES

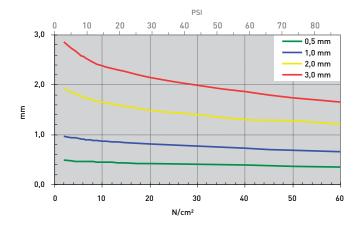
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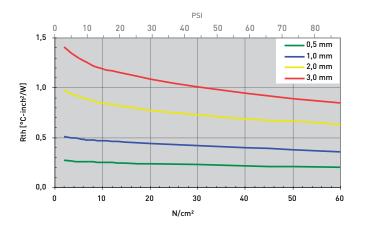
- SMD packages
- · Through-hole vias
- Capacitors
- Electronic parts to heat pipes For use in Automotive appli-cations/ Laptops / Medicine engineering / Industrial PCs

PROPERTY	UNIT	TGF-R0500-SI	TGF-R1000-SI	TGF-R2000-SI	TGF-R3000-SI
MATERIAL		Ceramic filled silicone	Ceramic filled silicone	Ceramic filled silicone	Ceramic filled silicone
Colour		Light blue	Light blue	Light blue	Light blue
Thickness	mm	0.5 ±0.05	1.0 ±0.10	2.0 ±0.20	3.0 ±0.30
Hardness	Shore 00	55	55	55	55
UL Flammability	UL 94	V0	V0	V0	V0
RoHS Conformity	2015 / 863 / EU	Yes	Yes	Yes	Yes
THERMAL					
Resistance ¹ @ 60 PSI @ Thickness	°C-inch²/W (mm)	0.22 (0.39)	0.40 (0.73)	0.68 (1.31)	0.95 (1.86)
Resistance ¹ @ 30 PSI @ Thickness	°C-inch²/W (mm)	0.24 (0.42)	0.44 (0.81)	0.77 (1.49)	1.09 (2.15)
Resistance ¹ @ 10 PSI @ Thickness	°C-inch²/W (mm)	0.26 (0.46)	0.48 (0.90)	0.88 (1.72)	1.25 (2.50)
Thermal Conductivity ¹	W/mK	3.0	3.0	3.0	3.0
Operating Temperature Range	°C	- 60 to + 180			
ELECTRICALLY					
Dielectric Strength	kV / mm	10	10	10	10
Volume Resistivity	0hm - cm	1.0 x 10 ¹¹			
Dielectric Constant	@ 1 kHz	5.2	5.2	5.2	5.2

 $Measurement\ technique\ according\ to: \ 'ASTM\ D\ 5470.\ All\ data\ without\ warranty\ and\ subject\ to\ change.\ Please\ contact\ us\ for\ further\ data\ and\ information.$

Thicknesses: 0.5 mm / 1.0 mm / 1.5 mm / 2.0 mm / 2.5 mm / 3.0 mm / 4.0 mm / 5.0 mm







SILICONE GAP FILLER PAD TGF-XS-SI

SOFT, FLEXIBLE / LOW VOLATILE SILOXANES (LV)

TGF-XS-SI is an electrically insulating thermally conductive high performance LV silicone gap filler. It is ideal for use in applications where thermal transfer over large gaps caused e.g. by big tolerances or different stack up heights must be achieved. Due to the specific formulation and filling with ceramic particles the silicone elastomer has an extremely high thermal conductivity. Through its softness and flexibility the material perfectly mates to irregular surfaces thus filling gaps at low pressure. By its use the total thermal resistance is minimised. The natural tackiness of the material allows for an easy and reliable pre-assembly.



PROPERTIES

- · Soft and compliable
- · Low volatile siloxane content (LV)
- Thermal conductivity: 6.0 W/mK
- · Operates at low pressure
- Extraordinary chemical resistance and longterm stability
- Shock absorbing
- · Easy mounting through self tackiness
- Two-side self-tacky

AVAILABILITY

- Sheet 400 x 200 mm (>= 1 mm)
- Sheet 200 x 200 mm (< 1 mm)
- · Tacky on both sides (TGF-XSXXXX-SI)
- · Die cut parts
- · Kiss cut parts on sheet

APPLICATION EXAMPLES

Thermal link of:

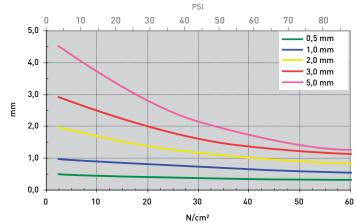
- SMD packages
- · Through-hole vias
- · RDRAMs memory modules
- Flip Chips, DSPs, BGAs, PPGAs For use in Automotive applications / Laptops / Medicine engineering/ Embedded boards

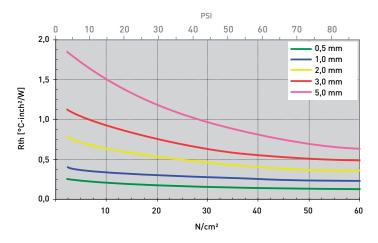
PROPERTY	UNIT	TGF-U0500-SI	TGF-U1000-SI	TGF-U2000-SI	TGF-U3000-SI	TGF-U5000-SI
MATERIAL		Ceramic filled silicone				
Colour		Grey	Grey	Grey	Grey	Grey
Thickness	mm	0.5 ±0.10	1.0 ±0.15	2.0 ±0.20	3.0 ±0.25	5.0 ±0.30
Hardness	Shore 00	60	60	60	60	60
UL Flammability	UL 94	VO	V0	V0	V0	V0
RoHS Conformity	2015 / 863 / EU	Yes	Yes	Yes	Yes	Yes
THERMAL			·			,
Resistance ¹ @ 60 PSI @ Thickness	°C-inch²/W (mm)	0.15 (0.35)	0.27 (0.65)	0.42 (1.03)	0.57 (1.40)	0.84 (1.75)
Resistance ¹ @ 30 PSI @ Thickness	°C-inch²/W (mm)	0.17 (0.40)	0.32 (0.81)	0.55 (1.40)	0.78 (1.98)	1.20 (2.75)
Resistance ¹ @ 10 PSI @ Thickness	°C-inch²/W (mm)	0.22 (0.45)	0.36 (0.91)	0.68 (1.77)	0.99 (2.63)	1.62 (3.95)
Thermal Conductivity ¹	W/mK	4.5	4.5	4.5	4.5	4.5
Operating Temperature Range	°C	- 40 to + 180				
ELECTRICALLY						
Dielectric Strength	kV / mm	15	15	15	15	15

Measurement technique according to: 'ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information.

Thicknesses: 0.5 mm / 1.0 mm / 1.5 mm / 2.0 mm / 2.5 mm / 3.0 mm / 4.0 mm / 5.0 mm





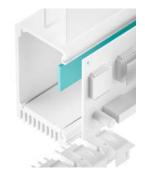




SILICONE GAP FILLER PAD TGF-VS-SI

SOFT, FLEXIBLE / LOW VOLATILE SILOXANES (LV)

TGF-VS-SI is an electrically insulating thermally conductive high performance LV silicone gap filler. It is ideal for use in applications where thermal transfer over large gaps caused e.g. by big tolerances or different stack up heights must be achieved. Due to the specific formulation and filling with ceramic particles the silicone elastomer has an extremely high thermal conductivity. Through its high softness and flexibility the material perfectly mates to irregular surfaces thus filling gaps at low pressure. By its use the total thermal resistance is minimised. The natural tackiness of the material allows for an easy and reliable pre-assembly.



PROPERTIES

- · Soft and compliable
- Low volatile siloxane content (LV)
- Thermal conductivity: 5.0 W/mK
- · Operates at low pressure
- Extraordinary chemical resistance and longterm stability
- Shock absorbing
- · Easy mounting through self tackiness
- Two-side self-tacky

AVAILABILITY

- Sheet 400 x 200 mm
- Tacky on both sides (TGF-VZXXXX-SI)
- Die cut parts
- Kiss cut parts on sheet

APPLICATION EXAMPLES

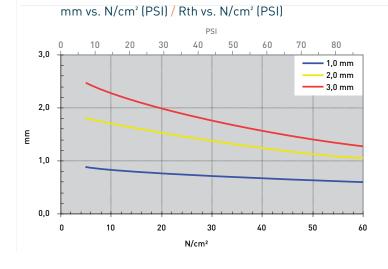
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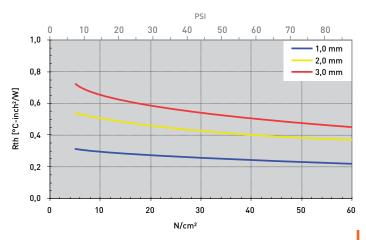
- SMD packages
- · Through-hole vias
- · RDRAMs memory modules
- Flip Chips, DSPs, BGAs, PPGAs
 For use in Automotive applications
 / Laptops / Medicine engineering
 / Embedded boards

PROPERTY	UNIT	TGF-VS1000-SI	TGF-VS2000-SI	TGF-VS3000-SI
MATERIAL		Ceramic filled silicone	Ceramic filled silicone	Ceramic filled silicone
Colour		Turquois	Turquois	Turquois
Density	g/cm³	3.3	3.3	3.3
Thickness	mm	1.0 +0.20	2.0 ±0.20	3.0 ±0.30
Hardness	Shore 00	55	55	55
UL Flammability (Equivalent)	UL 94	V0	V0	V0
RoHS Conformity	2015 / 863 / EU	Yes	Yes	Yes
THERMAL				
Resistance ¹ @ 60 PSI @ Thickness	°C-inch²/W (mm)	0.24 (0.67)	0.40 (1.25)	0.50 (1.55)
Resistance ¹ @ 30 PSI @ Thickness	°C-inch²/W (mm)	0.28 (0.76)	0.46 (1.55)	0.59 (2.00)
Resistance ¹ @ 10 PSI @ Thickness	°C-inch²/W (mm)	0.30 (0.87)	0.52 (1.78)	0.69 (2.42)
Thermal Conductivity ¹	W/mK	5.0	5.0	5.0
Operating Temperature Range	°C	- 40 to + 130	- 40 to + 130	- 40 to + 130
ELECTRICAL				
Dielectric Strength	kV / mm	≽ 8	≽ 8	≽ 8
Volume Resistivity	Ohm - cm	≥1.0 x 10 ¹⁰	≥1.0 x 10 ¹⁰	≥1.0 x 10 ¹⁰

Measurement technique according to: 'ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information.

Thicknesses: 0.5 mm / 1.0 mm / 2.0 mm / 3.0 mm







SILICONE GAP FILLER PAD TGF-U-SI

SOFT, FLEXIBLE

TGF-U-SI is an electrically insulating thermally conductive high performance silicone gap filler. It is ideal for use in applications where a very good thermal transfer over large gaps caused e.g. by big tolerances or different stack up heights must be achieved. Due to the specific formulation and filling with ceramic particles the silicone elastomer has an extremely high thermal conductivity. Through its softness and flexibility the material perfectly mates to irregular surfaces thus filling gaps at low pressure.By its use the total thermal resistance is minimised. The natural tackiness of the material allows for an easy and reliable pre-assembly.



PROPERTIES

- · Soft and compliable
- Thermal conductivity: 4.5 W/mK
- · Operates at low pressure
- Extraordinary chemical resistance and longterm stability
- Shock absorbing
- Easy mounting through self tackiness

AVAILABILITY

- Sheet 300 x 400 mm
- Tacky on both sides (TGF-UXXXX-SI)
- Die cut parts
- Kiss cut parts on sheet

APPLICATION EXAMPLES

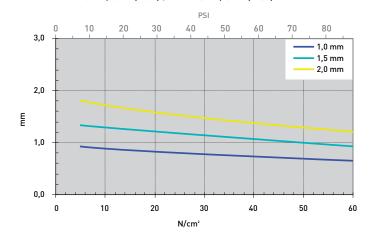
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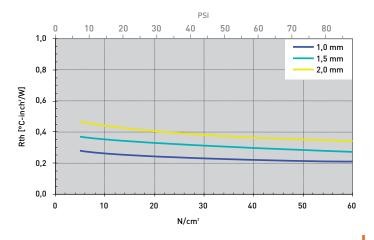
- SMD packages
- Through-hole vias
- · RDRAMs memory modules
- Flip Chips, DSPs, BGAs, PPGAs For use in Automotive applications / Laptops / Medicine engineering/ Embedded boards

PROPERTY	UNIT	TGF-XS1000-SI	TGF-XS1500-SI	TGF-XS2000-SI
MATERIAL		Ceramic filled silicone	Ceramic filled silicone	Ceramic filled silicone
Colour		Grey	Grey	Grey
Density	g/cm³	3.3	3.3	3.3
Thickness	mm	1.0 ±0.10	1.5 ±0.15	2.0 ±0.20
Hardness	Shore 00	60	60	60
UL Flammability (Equivalent)	UL 94	VO	VO	V0
RoHS Conformity	2015 / 863 / EU	Yes	Yes	Yes
THERMAL				
Resistance¹ @ 60 PSI @ Thickness	°C-inch²/W (mm)	0.22 (0.74)	0.30 (1.07)	0.36 (1.40)
Resistance ¹ @ 30 PSI @ Thickness	°C-inch²/W (mm)	0.24 (0.83)	0.33 (1.22)	0.41 (1.60)
Resistance ¹ @ 10 PSI @ Thickness	°C-inch²/W (mm)	0.27 (0.91)	0.36 (1.32)	0.45 (1.80)
Thermal Conductivity¹	W/mK	6.0	6.0	6.0
Operating Temperature Range	°C	- 40 to + 130	- 40 to + 130	- 40 to + 130
ELECTRICAL				
Dielectric Strength	kV / mm	>8	>8	≽ 8
Volume Resistivity	Ohm - cm	≥1.0 x 10 ¹⁰	≥1.0 x 10 ¹⁰	≥1.0 x 10 ¹⁰

Measurement technique according to: 'ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information.

Thicknesses: 0.75 mm / 1.0 mm / 1.5 mm / 2.0 mm







SILICONE GAP FILLER PAD TGF-Z-SI

SOFT, FLEXIBLE

TGF-Z-SI is an electrically insulating thermally conductive silicone gap filler. It is ideal for use in applications where thermal transfer over large gaps caused e.g. by big tolerances or different stack up heights must be achieved. Due to the specific formulation and filling with ceramic particles the silicone elastomer has an extremely high thermal conductivity. Through its softness and plasticity the material perfectly mates to irregular surfaces thus optimizing the thermal contact at low pressure. By its use the total thermal resistance is minimised. The natural tackiness of the material allows for an easy and reliable pre-assembly

PROPERTIES

- Soft and compliable
- Thermal conductivity: 11 W/mK
- Operates at low pressure
- Extraordinary chemical resistance and longterm stability
- Shock absorbing
- Easy mounting through self tackiness
- · One or Two-side self-tacky

AVAILABILITY

- Sheet 200 x 300 mm
- Tacky on both sides (TGF-ZXXXX-SI)
- Tacky on one side by talcum coating (TGF-ZXXXX-SI-A1)
- Die cut parts
- Kiss cut parts on sheet

APPLICATION EXAMPLES

Thermal link of:

- SMD packages
- Through-hole vias
- RDRAMs memory modules
- Capacitors

For use in Automotive applications / Laptops / Medicine engineering / Embedded boards

PROPERTY	UNIT	TGF-Z1000-SI	TGF-Z1500-SI	TGF-Z2000-SI
MATERIAL		Ceramic filled silicone	Ceramic filled silicone	Ceramic filled silicone
Colour		Light grey	Light grey	Light grey
Density	g/cm³	3.3	3.3	3.3
Hardness	mm	1.0 ±0.2	1.5 ±0.2	2.0 ±0.3
Thickness	Shore 00	64	64	64
UL Flammability (Equivalent)	UL 94	V0	V0	V0
RoHS Conformity	2015 / 863 / EU	Yes	Yes	Yes
THERMAL				
Resistance¹	°C-inch²/W	0.17 @ 0.90 mm	0.24 @ 1.40 mm	0.30 @ 1.80 mm
Resistance'	°C-inch²/W	0.15 @ 0.70 mm	0.23 @ 1.20 mm	0.27 @ 1.60 mm
Thermal Conductivity	W/mK	11.0	11.0	11.0
Operating Temperature Range	°C	- 50 to + 180	- 50 to + 180	- 50 to + 180
ELECTRICALLY				
Dielectric Strength	kV/mm	>10	>10	>10
Dielectric Constant	0hm - cm	7.0 x 10 ¹¹	7.0 x 10 ¹¹	7.0 x 10 ¹¹
Volume Resistivity	1 MHz	ca. 7.5	ca. 7.5	ca. 7.5

Measurement technique according to: 'ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information.

Thicknesses: 1.0 mm / 1.5 mm / 2.0 mm



SILICONE GAP FILLER PAD TGF-BXS-SI

ULTRA SOFT, FLEXIBLE

TGF-BXS-SI is an electrically insulating thermally conductive silicone gap filler. It is ideal for use in applications where thermal transfer over large gaps caused e.g. by big tolerances or different stack up heights must be achieved. Due to the specific formulation and filling with ceramic particles the silicone elastomer has a good thermal conductivity. Through its ultra softness and flexibility the material perfectly mates to irregular surfaces thus filling gaps at minimum pressure. By its use the total thermal resistance is minimised. The natural tackiness of the material allows for an easy and reliable pre-assembly. The optional PSA on one side provides for a strong adhesiveness.



PROPERTIES

- · Ultra soft and compliable
- Thermal conductivity: 1.2 W/mK
- Operates at minimum pressure
- Extraordinary chemical resistance and longterm stability
- Shock absorbing
- · Easy mounting through self tackiness
- Two-side tacky or one-side adhesive

AVAILABILITY

- Sheet 200 x 400 mm
- Tacky on both sides (TGF-BXSXXXX-SI)
- PSA adhesive on one side (TGF-BXSXXXX-SI-A1)
- Die cut parts
- Kiss cut parts on sheet

APPLICATION EXAMPLES

Thermal link of:

- SMD packages
- Through-hole vias
- Capacitors
- Electronic parts to heat pipes For use in Automotive applications / Laptops / Medicine engineering/ Industrial PCs

PROPERTY

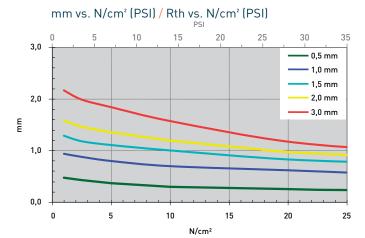
UNIT

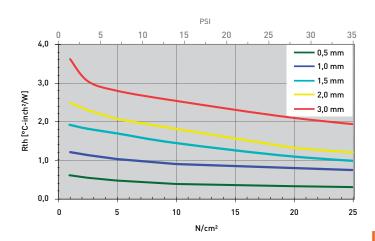
TGF-BXS0500-SI TGF-BXS1000-SI TGF-BXS1500-SI TGF-BXS2000-SI TGF-BXS3000-SI

MATERIAL		Ceramic filled silicone				
Colour		Pink	Pink	Pink	Pink	Pink
Thickness	mm	0.5 ±0.10	1.0 ±0.10	1.5 ±0.15	2.0 ±0.20	3.0 ±0.30
Hardness	Shore 00	30	30	30	30	30
Density	g/cm³	2.3	2.3	2.3	2.3	2.3
UL Flammability	UL 94	VO	VO	VO	VO	VO
RoHS Conformity	2015 / 863 / EU	Yes	Yes	Yes	Yes	Yes
THERMAL						
Resistance¹ @ 35 PSI @ Thickness	°C-inch²/W (mm)	0.31 (0.24)	0.75 (0.58)	1.00 (0.80)	1.20 (0.92)	1.95 (1.09)
Resistance¹ @ 15 PSI @ Thickness	°C-inch²/W (mm)	0.39 (0.30)	0.90 (0.70)	1.45 (1.01)	1.81 (1.19)	2.54 (1.57)
Resistance¹ @ 7 PSI @ Thickness	°C-inch²/W (mm)	0.48 (0.37)	1.03 (0.80)	1.70 (1.11)	2.07 (1.35)	2.80 (1.84)
Thermal Conductivity ¹	W/mK	1.2	1.2	1.2	1.2	1.2
Operating Temperature Range	°C	- 40 to + 150	-40 to + 150			
ELECTRIC						
Dielectric Strength	kV / mm	> 6.5	> 6.5	> 6.5	> 6.5	> 6.5
Volume Resistivity	0hm - cm	3.5 x 10 ¹²				
Dielectric Constant	@ 1 MHz	3.87	3.87	3.87	3.87	3.87

Measurement technique according to: 'ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information.

Thicknesses: 0.5 mm / 1.0 mm / 1.5 mm / 2.0 mm / 2.5 mm / 3.0 mm / 3.5 mm / 4.0 mm / 4.5 mm / 5.0 mm / .. 12.0 mm







SILICONE GAP FILLER PAD TGF-HUS-SI

EXTREMELY SOFT, FLEXIBLE

TGF-HUS-SI is an electrically insulating thermally conductive silicone gap filler. It is ideal for use in applications where thermal transfer over large gaps caused e.g. by big tolerances or different stack up heights must be achieved. Due to the specific formulation and filling with ceramic particles the silicone elastomer has a good thermal conductivity. Through its extreme softness and flexibility the material perfectly mates to irregular surfaces thus filling gaps at very low pressure. By its use the total thermal resistance is minimised. The natural tackiness of the material allows for an easy and reliable preassembly.

PROPERTIES

- Extremely soft and compliable
- Thermal conductivity: 1.8 W/mK
- · Operates at very low pressure
- Extraordinary chemical resistance and longterm stability
- Shock absorbing
- · Easy mounting through self tackiness
- Two-side self-tacky

AVAILABILITY

- Sheet 300 x 400 mm
- · Tacky on both sides (TGF-HUSXXXX-SI)
- Die cut parts
- · Kiss cut parts on sheet

APPLICATION EXAMPLES

Thermal link of:

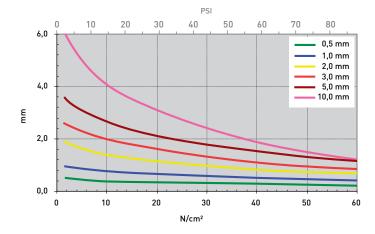
- SMD packages
- · Through-hole vias
- Capacitors
- Electronic parts to heat pipes For use in Automotive applications / Laptops / Medicine engineering / Industrial PCs

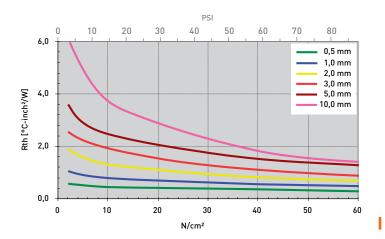
PROPERTY UNIT TGF-HUS1000-SI TGF-HUS2000-SI TGF-HUS3000-SI TGF-HUS3000-SI TGF-HUS5000-SI

MATERIAL		Ceramic filled silicone				
Colour		Dark grey				
Thickness	mm	0.5 ±0.10	1.0 ±0.15	2.0 ±0.20	3.0 ±0.25	5.0 ±0.30
Hardness	Shore 00	30	30	30	30	30
UL Flammability	UL 94	VO	V0	V0	V0	V0
RoHS Conformity	2015 / 863 / EU	Yes	Yes	Yes	Yes	Yes
THERMAL						
Resistance ¹ @ 60 PSI @ thickness	°C-inch²/W (mm)	0.34 (0.31)	0.56 (0.54)	0.82 (0.85)	1.10 (1.09)	1.52 (1.54)
Resistance ¹ @ 30 PSI @ thickness	°C-inch²/W (mm)	0.40 (0.36)	0.69 (0.68)	1.12 (1.16)	1.53 (1.63)	2.06 (2.13)
Resistance ¹ @ 10 PSI @ thickness	°C-inch²/W (mm)	0.50 (0.46)	0.85 (0.85)	1.48 (1.57)	2.10 (2.18)	2.71 (2.92)
Thermal Conductivity ¹	W/mK	1.8	1.8	1.8	1.8	1.8
Operating Temperature Range	°C	- 40 to + 150				
ELECTRICALLY						
Dielectric Strength	kV / mm	> 10	> 10	> 10	> 10	> 10
Volume Resistivity	0hm - cm	8.056 x 10 ¹²				
Dielectric Constant	5.6	5.6	5.6	5.6	5.6	5.6

Measurement technique according to: 'ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information.

Thicknesses: 0.5 mm / 1.0 mm / 1.5 mm / 2.0 mm / 2.5 mm / 3.0 mm / 4.0 mm / 5.0 mm / 10.0 mm







SILICONE GAP FILLER PAD TGF-JUS-SI

EXTREMELY SOFT, FLEXIBLE

TGF-JUS-SI is an electrically insulating thermally conductive silicone gap filler. It is ideal for use in applications where thermal transfer over large gaps caused e.g. by big tolerances or different stack up heights must be achieved. Due to the specific formulation and filling with ceramic particles the silicone elastomer has a good thermal conductivity. Through its extreme softness and flexibility the material perfectly mates to irregular surfaces thus filling gaps at very low pressure. By its use the total thermal resistance is minimised. The natural tackiness of the material allows for an easy and reliable preassembly.



PROPERTIES

- Extremely soft and compliable
- Thermal conductivity: 2.0 W/mK
- Operates at very low pressure
- Extraordinary chemical resistance and longterm stability
- Shock absorbing
- · Easy mounting through self tackiness
- · One or two-side self-tacky

AVAILABILITY

- Sheet 480 x 460 mm (Thickness 1.0 mm)
- · Sheet 460 x 460 mm (Thickness 2.0 mm)
- Sheet 450 x 460 mm (Thickness \geq 2.5 mm)
- Tacky on both sides (TGF-IUSXXXX-SI)
- · PSA adhesive on one side (TGF-IUSXXXX-SI-A1)
- · Die cut parts
- · Kiss cut parts on sheet

APPLICATION EXAMPLES

Thermal link of:

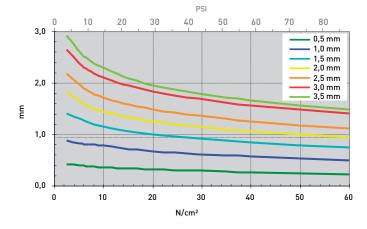
- SMD packages
- Through-hole vias
- Capacitors
- Electronic parts to heat pipes For use in Automotive applications / Laptops / Medicine engineering/Industrial PCs

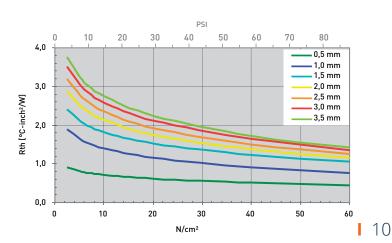
PROPERTY UNIT TGF-JUS0500-SI TGF-JUS1000-SI TGF-JUS2000-SI TGF-JUS3000-SI

MATERIAL		Ceramic filled silicone	Ceramic filled silicone	Ceramic filled silicone	Ceramic filled silicone
Colour		Grey	Grey	Grey	Grey
Thickness	mm	0.5 ±0.05	1.0 ±0.10	2.0 ±0.20	3.0 ±0.30
Hardness	Shore 00	20	20	20	20
UL Flammability	UL 94	V0	V0	V0	V0
RoHS Conformity	2015 / 863 / EU	Yes	Yes	Yes	Yes
THERMAL					
Resistance ¹ @ 60 PSI @ thickness	°C-inch²/W (mm)	0.60 (0.35)	1.00 (0.65)	1.40 (1.10)	1.70 (1.60)
Resistance ¹ @ 30 PSI @ thickness	°C-inch²/W (mm)	0.70 (0.40)	1.20 (0.75)	1.80 (1.30)	2.10 (1.85)
Resistance ¹ @ 10 PSI @ thickness	°C-inch²/W (mm)	0.80 (0.45)	1.50 (0.85)	2.30 (1.58)	2.80 (2.25)
Thermal Conductivity ¹	W/mK	2.0	2.0	2.0	2.0
Operating Temperature Range	°C	- 60 to + 180			
ELECTRICALLY					
Dielectric Strength	kV / mm	10	10	10	10
Volume Resistivity	0hm - cm	1.0 x 10 ¹¹			
Dielectric Constant	ର 1 kHz	5	5	5	5

Measurement technique according to: 'ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information.

Thicknesses: 0.5 mm / 1.0 mm / 1.5 mm / 2.0 mm / 2.5 mm / 3.0 mm / 3.5 mm / 4.0 mm / 4.5 mm / 5.0 mm







SILICONE GAP FILLER PAD TGF-JXS-SI

ULTRA SOFT, FLEXIBLE / LOW VOLATILE SILOXANES (LV)

TGF-JXS-SI is an electrically insulating thermally conductive LV silicone gap filler. It is ideal for use in applications where thermal transfer over large gaps caused e.g. by big tolerances or different stack up heights must be achieved. Due to the specific formulation and filling with ceramic particles the silicone elastomer has a high thermal conductivity. Through its ultra softness and flexibility the material perfectly mates to irregular surfaces thus filling gaps at minimum pressure. By its use the total thermal resistance is minimised. The natural tackiness of the material allows for an easy and reliable pre-assembly. The material is one-side tacky through lamination with a thermally conductive film.

PROPERTIES

- · Ultra soft and compliable
- Low volatile siloxane content (LV)
- · No paint wetting impairment
- Thermal conductivity: 2.0 W/mK
- Operates at minimum pressure
- Extraordinary chemical resistance and longterm stability
- Shock absorbing
- Easy mounting through self tackiness One-side self-tacky

AVAILABILITY

- Sheet 210 x 420 mm (0.5 3.0 mm)
- Sheet of 210 x 350 mm (3.5 6.0 mm)
- Tacky on one side by film laminate (TGF-IXSXXXX-SI-A1)
- · Die cut parts
- · Kiss cut parts on sheet

APPLICATION EXAMPLES

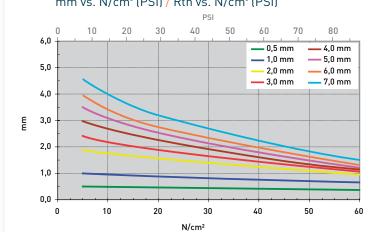
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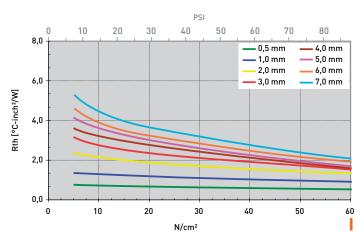
- SMD packages
- Through-hole vias
- · RDRAMs Smemory modules
- Flip Chips, DSPs, BGAs, PPGAs
 For use in Automotive applications
 / Laptops / Medicine engineering
 / Embedded boards

PROPERTY	UNIT	TGF-JXS0500- SI-A1	TGF-JXS1000- SI-A1	TGF-JXS2000- SI-A1	TGF-JXS3000- SI-A1	TGF-JXS5000- SI-A1
MATERIAL		Ceramic filled silicone				
Colour		Light blue / Grey	Light blue / Gre			
Thickness	mm	0.5 ± 0.20	1.0 +0.20	2.0 ±0.20	3.0 ±0.30	5.0 ±0.50
Hardness	Shore 00	20	20	20	20	20
No Paint Wetting Impairment Substances (PWIS) ¹		Passed	Passed	Passed	Passed	Passed
UL Flammability	UL 94	V0	V0	V0	V0	V0
RoHS Conformity	2015 / 863 / EU	Yes	Yes	Yes	Yes	Yes
THERMAL						
Resistance ² @ 60 PSI @ Thickness	°C-inch²/W (mm)	0.59 (0.41)	1.03 (0.75)	1.57 (1.25)	1.90 (1.46)	2.26 [1.81]
Resistance ² @ 30 PSI @ Thickness	°C-inch²/W (mm)	0.64 (0.45)	1.16 (0.86)	1.85 (1.55)	2.33 (1.87)	2.98 (2.52)
Resistance ² @ 10 PSI @ Thickness	°C-inch²/W (mm)	0.74 (0.49)	1.32 (0.96)	2.27 (1.82)	2.96 (2.31)	3.89 (3.32)
Thermal Conductivity	W/mK	2.0	2.0	2.0	2.0	2.0
Operating Temperature Range	°C	- 40 to + 200	- 40 to+ 200			
ELECTRICALLY						
Dielectric Strength	kV / mm	>10	>10	>10	>10	>10
Volume Resistivity	Ohm - cm	1.0 x 10 ¹⁰				

Measurement technique according to: 'P-VW 3-10.7 57650 Temp. Test, 'ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information.

Thicknesses: 0.5 mm / 1.0 mm / 2.0 mm / 2.5 mm / 3.0 mm / 4.0 mm / 5.0 mm / 6.0 mm / 7.0 mm mm vs. N/cm² (PSI) / Rth vs. N/cm² (PSI)







SILICONE GAP FILLER PAD TGF-MXS-SI

ULTRASOFT, WITH OR WITHOUT FIBREGLASS REINFORCEMENT

TGF-MXS-SI is an electrically insulating thermally conductive silicone gap filler. It is ideal for use in applications where thermal transfer over large gaps caused e.g. by big tolerances or different stack up heights must be achieved. Due to the specific formulation and filling with ceramic particles the silicone elastomer has a high thermal conductivity. Through its ultra softness and flexibility the material perfectly mates to irregular surfaces thus filling gaps at minimum pressure. By its use the total thermal resistance is minimised. The natural tackiness of the material allows for an easy and reliable pre-assembly. The optional conductive fibreglass reinforced silicone laminate on one side provides for a high mechanic stability and strengh.



PROPERTIES

- · Ultra soft and compliable
- Thermal conductivity: 2.4 W/mK
- · Operates at minimum pressure
- Extraordinary chemical resistance and longterm stability
- Shock absorbing
- · Easy mounting through self tackiness
- · One or two-side self-tacky

AVAILABILITY

- Sheet 200 x 400 mm
- Tacky on both sides (TGF-MXSXXXX-SI)
- Tacky on one side by fibreglass reinforced laminate (TGF-MXSXXXX-SI-GF)
- Die cut parts
- · Kiss cut parts on sheet

APPLICATION EXAMPLES

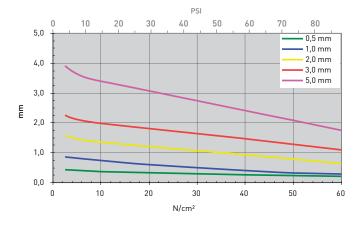
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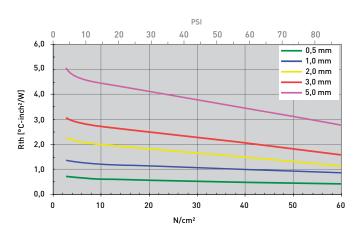
- SMD packages
- · Through-hole vias
- Capacitors
- Electronic parts to heat pipes For use in Automotive applications / Laptops / Medicine engineering/ Industrial PCs

PROPERTY	UNIT	TGF-MXS0500- SI	TGF-MXS1000- SI	TGF-MXS2000- SI	TGF-MXS3000-SI
MATERIAL		Ceramic filled silicone	Ceramic filled silicone	Ceramic filled silicone	Ceramic filled silicone
Colour		Grey (/ Red laminate)	Grey (/ Red laminate)	Grey (/ Red laminate)	Grey (/ Red laminate)
Optional Reinforcement (TGF-MXSXXXX-SI-GF)		Fibreglass laminate	Fibreglass laminate	Fibreglass laminate	Fibreglass laminate
Thickness	mm	0.5 ±0.10	1.0 ±0.10	2.0 ±0.20	3.0 ±0.30
Hardness	Shore 00	15	15	15	15
UL Flammability	UL 94	V1	V1	V1	V0
RoHS Conformity	2015 / 863 / EU	Yes	Yes	Yes	Yes
THERMAL					
Resistance ¹ @ 60 PSI @ Thickness	°C-inch²/W (mm)	0.44 (0.25)	1.00 (0.45)	1.49 (0.86)	2.05 (1.50)
Resistance ¹ @ 30 PSI @ Thickness	°C-inch²/W (mm)	0.53 (0.32)	1.15 (0.63)	1.79 (1.15)	2.50 (1.73)
Resistance ¹ @ 10 PSI @ Thickness	°C-inch²/W (mm)	0.63 (0.40)	1.26 (0.75)	2.03 (1.40)	2.77 (2.05)
Thermal Conductivity	W/mK	2.4	2.4	2.4	2.4
Operating Temperature Range	°C	- 40 to + 200			
ELECTRICAL					
Dielectric Strength	kV / mm	4	4	4	4
Volume Resistivity	0hm - cm	1.7 x 10 ¹³			

Measurement technique according to: 'ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information.

Thicknesses: $0.5 \text{ mm} / 1.0 \text{ mm} / 2.0 \text{ mm} / 3.0 \text{ mm} / 4.0 \text{ mm} / 5.0 \text{ mm} / \dots / 10.0 \text{ mm}$. Other thicknesses on request







SILICONE GAP FILLER PAD TGF-LSS-SI

VERY SOFT, FLEXIBLE

TGF-LSS-SI is an electrically insulating thermally conductive high performance silicone gap filler. It is ideal for use in applications where thermal transfer over large gaps caused e.g. by big tolerances or different stack up heights must be achieved. Due to the specific formulation and filling with ceramic particles the silicone elastomer has a very high thermal conductivity. Through its extraordinary softness and flexibility the material perfectly mates to irregular surfaces thus filling gaps at very low pressure. By its use the total thermal resistance is minimised. The natural tackiness of the material allows for an easy and reliable pre-assembly. The material can be mechanically reinforced by a fibreglass mesh inlay or a film laminate with fibreglass or by a PI film laminate.

UNIT



PROPERTIES

- Extraordinary soft and compliable
- Thermal conductivity: 2.5 W/mK
- Operates at veery low pressure
- Extraordinary chemical resistance and longterm stability
- Shock absorbing

PROPERTY

- Easy mounting through self tackiness
- Two-side self-tacky

AVAILABILITY

- Sheet 200 x 400 mm
- Two-side self-tacky (TGF-LSSXXXX-SI)
- With fibreglass mesh inlay (TGF-LSSXXXX-SI-GF)
- With fibreglass reinforced film laminate (TGF-LSSXXXX-SI-LGF)

TGF-M0500-SI

· With PI film laminate (TGF-LSSXXXX-SI-LPI)

TGF-M1000-SI

- · Die cut parts
- · Kiss cut parts on sheet

APPLICATION EXAMPLES

Thermal link of:

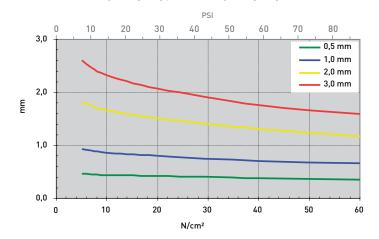
- SMD packages
- · Through-hole vias
- · RDRAMs memory modules
- Flip Chips, DSPs, BGAs, PPGAs
 For use in Automotive applications /
 Laptops / Medical engineering /
 Embedded boards / Graphic cards
 / Memory modules/ LED light /
 LCD and plasma TV

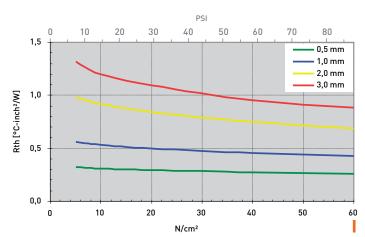
 TGF-M2000-SI TGF-M3000-SI

MATERIAL		Ceramic filled silicone	Ceramic filled silicone	Ceramic filled silicone	Ceramic filled silicone
Colour		Light blue	Light blue	Light blue	Light blue
Thickness	mm	0.5 ±0.05	1.0 ±0.10	2.0 ±0.20	3.0 ±0.30
Hardness	Shore 00	50	50	50	50
UL Flammability	UL 94	V0	V0	V0	V0
RoHS Conformity	2015 / 863 / EU	Yes	Yes	Yes	Yes
THERMAL					
Resistance ¹ @ 60 PSI @ Thickness	°C-inch²/W (mm)	0.27 (0.38)	0.45 (0.71)	0.75(1.31)	0.96 (1.76)
Resistance ¹ @ 30 PSI @ Thickness	°C-inch²/W (mm)	0.29 (0.42)	0.50 (0.80)	0.84 (1.50)	1.09 (2.07)
Resistance ¹ @ 10 PSI @ Thickness	°C-inch²/W (mm)	0.32 (0.45)	0.55 (0.90)	0.95 (1.75)	1.26 (2.46)
Thermal Conductivity ¹	W/mK	2.5	2.5	2.5	2.5
Operating Temperature Range	°C	- 60 to + 180			
ELECTRICALLY					
Dielectric Strength	kV / mm	10	10	10	10
Volume Resistivity	0hm - cm	1.0 x 10 ¹¹			
Dielectric Constant	ର 1 kHz	5.2	5.2	5.2	5.2

Measurement technique according to: 'ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information.

Thicknesses: 0.5 mm / 1.0 mm / 1.5 mm / 2.0 mm / 2.5 mm / 3.0 mm







SILICONE GAP FILLER PAD TGF-MUS-SI

EXTREMELY SOFT, FLEXIBLE

TGF-MUS-SI is an electrically insulating thermally conductive silicone gap filler. It is ideal for use in applications where thermal transfer over large gaps caused e.g. by big tolerances or different stack up heights must be achieved. Due to the specific formulation and filling with ceramic particles the silicone elastomer has a very high thermal conductivity. Through its extreme softness and flexibility the material perfectly mates to irregular surfaces thus filling gaps at very low pressure. By its use the total thermal resistance is minimised. The natural tackiness of the material allows for an easy and reliable pre-assembly.



PROPERTIES

- Extremely soft and compliable
- Thermal conductivity: 2.5 W/mK
- Operates at very low pressure
- Extraordinary chemical resistance and longterm stability
- Shock absorbing
- Easy mounting through self tackiness
- · One or two-side self-tacky

AVAILABILITY

- Sheet 480 x 460 mm (1.0 mm)
- Sheet 460 x 460 mm (2.0 mm)
- · Sheet 450 x 460 mm (3.0 mm)
- Tacky on both sides (TGF-MUSXXXX-SI)
- Tacky on one side (TGF-MUSXXXX-SI-A1)
- · Die cut parts
- · Kiss cut parts on sheet

APPLICATION EXAMPLES

Thermal link of:

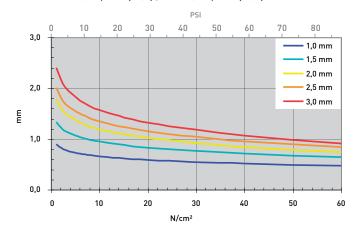
- SMD packages
- · Through-hole vias
- Capacitors
- Electronic parts to heat pipes For use in Automotive applications / Laptops / Medicine engineering/ Industrial PCs

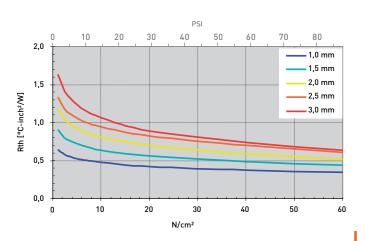
UNIT	TGF-MUS1000-SI	TGF-MUS2000-SI	TGF-MUS3000-SI
	Ceramic filled silicone	Ceramic filled silicone	Ceramic filled silicone
	Light blue	Light blue	Light blue
mm	1.0 ±0.10	2.0 ±0.20	3.0 ±0.30
Shore 00	20	20	20
UL 94	V0	V0	V0
2015 / 863 / EU	Yes	Yes	Yes
°C-inch²/W (mm)	0.37 (0.52)	0.58 (0.85)	0.74 (1.06)
°C-inch²/W (mm)	0.42 (0.59)	0.70 (1.02)	0.89 (1.32)
°C-inch²/W (mm)	0.49 (0.70)	0.89 (1.29)	1.20 (1.70)
W/mK	2.5	2.5	2.5
°C	- 60 to + 180	- 60 to + 180	- 60 to + 180
kV / mm	10	10	10
Ohm - cm	1.0 x 10 ¹¹	1.0 x 10 ¹¹	1.0 x 10 ¹¹
@ 1 kHz	5.2	5.2	5.2
	mm Shore 00 UL 94 2015 / 863 / EU °C-inch²/W (mm) °C-inch²/W (mm) W/mK °C kV / mm Ohm - cm	Ceramic filled silicone Light blue mm 1.0 ± 0.10 Shore 00 20 UL 94 V0 2015 / 863 / EU Yes C-inch²/W (mm) 0.37 (0.52) C-inch²/W (mm) 0.42 (0.59) C-inch²/W (mm) 0.49 (0.70) W/mK 2.5 C - 60 to + 180 kV / mm 10 Ohm - cm 1.0 x 10 11	Ceramic filled silicone Ceramic filled silicone Light blue Light blue mm 1.0 ± 0.10 2.0 ± 0.20 Shore 00 20 20 UL 94 V0 V0 2015 / 863 / EU Yes Yes °C-inch²/W (mm) 0.37 (0.52) 0.58 (0.85) °C-inch²/W (mm) 0.42 (0.59) 0.70 (1.02) °C-inch²/W (mm) 0.49 (0.70) 0.89 (1.29) W/mK 2.5 2.5 °C - 60 to + 180 - 60 to + 180 kV/ mm 10 10 0hm - cm 1.0 x 10 ¹¹ 1.0 x 10 ¹¹

Measurement technique according to: 'ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information.

Thicknesses: 1.0 mm / 1.5 mm / 2.0 mm / 2.5 mm / 3.0 mm / 4.0 mm / 5.0 mm

mm vs. N/cm² (PSI) / Rth vs. N/cm² (PSI)







SILICONE GAP FILLER PAD TGF-RSS-SI

VERY SOFT, FLEXIBLE

TGF-RSS-SI is an electrically insulating thermally conductive high performance silicone gap filler. It is ideal for use in applications where thermal transfer over large gaps caused e.g. by big tolerances or different stack up heights must be achieved. Due to the specific formulation and filling with ceramic particles the silicone elastomer has a very high thermal conductivity. Through its extraordinary softness and flexibility the material perfectly mates to irregular surfaces thus filling gaps at very low pressure. By its use the total thermal resistance is minimised. The natural tackiness of the material allows for an easy and reliable pre-assembly. The material can be mechanically reinforced by a fibreglass mesh inlay or a film laminate with fibreglass or by a PI film laminate.

PROPERTIES

- Extraordinary soft and compliable
- Thermal conductivity: 3.0 W/mK
- Operates at veery low pressure
- Extraordinary chemical resistance and longterm stability
- Shock absorbing
- · Easy mounting through self tackiness
- Two-side self-tacky

AVAILABILITY

- · Sheet 200 x 400 mm
- Two-side self-tacky (TGF-RSSXXXX-SI)
- With fibreglass mesh inlay (TGF-RSSXXXX-SI-GF)
- With fibreglass reinforced film laminate (TGF-RSSXXXX-SI-LGF)
- With PI film laminate (TGF-RSSXXXX-SI-LPI)
- · Die cut parts
- · Kiss cut parts on sheet

APPLICATION EXAMPLES

Thermal link of:

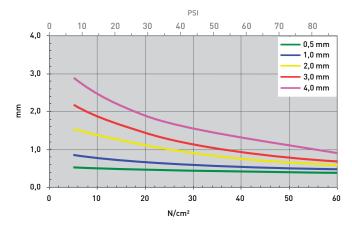
- SMD packages
- · Through-hole vias
- · RDRAMs memory modules
- Flip Chips, DSPs, BGAs, PPGAs For use in Automotive applications / Laptops / Medical engineering / Embedded boards / Graphic cards / Memory modules / LED light / LCD and plasma TV

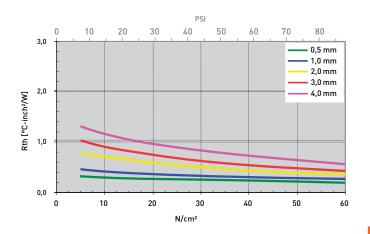
PROPERTY UNIT TGF-RSS0500-SI TGF-RSS1000-SI TGF-RSS2000-SI TGF-RSS3000-SI TGF-RSS4000-SI

MATERIAL		Ceramic filled silicone				
Colour		Light blue				
Thickness	mm	0.5 ±0.05	1.0 ±0.10	2.0 ±0.20	3.0 ±0.30	4.0 ±0.40
Hardness	Shore 00	43	43	43	43	43
UL Flammability	UL 94	V0	V0	V0	V0	V0
RoHS Conformity	2015 / 863 / EU	Yes	Yes	Yes	Yes	Yes
THERMAL						
Resistance ¹ @ 60 PSI @ Thickness	°C-inch²/W (mm)	0.25 (0.41)	0.31 (0.52)	0.44 (0.73)	0.54 (0.93)	0.74 (1.33)
Resistance ¹ @ 30 PSI @ Thickness	°C-inch²/W (mm)	0.27 (0.44)	0.37 (0.67)	0.59 (1.10)	0.75 (1.44)	0.95 (1.89)
Resistance ¹ @ 10 PSI @ Thickness	°C-inch²/W (mm)	0.30 (0.48)	0.45 (0.81)	0.75 (1.48)	0.99 (2.08)	1.25 (2.74)
Thermal Conductivity ¹	W/mK	3.0	3.0	3.0	3.0	3.0
Operating Temperature Range	°C	- 50 to + 170				
ELECTRICAL						
Dielectric Strength	kV/mm	>7.0	→7.0	→7.0	→7.0	→7.0
Volume Resistivity	0hm - cm	1.0 x 10 ¹³				
Dielectric Constant	@ 1 MHz	5.6	5.6	5.6	5.6	5.6

Measurement technique according to: 'ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information.

Thicknesses: 0.5 mm / 1.0 mm / 2.0 mm / 3.0 mm / 4.0 mm / 5.0 mm / ... / 10.0 mm







SILICONE GAP FILLER PAD TGF-TSS-SI

VERY SOFT, FLEXIBLE

TGF-TSS-SI is an electrically insulating thermally conductive high performance silicone gap filler. It is ideal for use in applications where thermal transfer over large gaps caused e.g. by big tolerances or different stack up heights must be achieved. Due to the specific formulation and filling with ceramic particles the silicone elastomer has a very high thermal conductivity. Through its extraordinary softness and flexibility the material perfectly mates to irregular surfaces thus filling gaps at very low pressure. By its use the total thermal resistance is minimised. The natural tackiness of the material allows for an easy and reliable pre-assembly.



PROPERTIES

- Extremely soft and compliable
- Thermal conductivity: 3.2 W/mK
- Operates at minimum pressure
- Extraordinary chemical resistance and longterm stability
- Shock absorbing
- Easy mounting through self tackiness

AVAILABILITY

- Sheet 300 x 400 mm
- · Tacky on both sides (TGF-TSSXXXX-SI)
- Die cut parts
- Kiss cut parts on sheet

APPLICATION EXAMPLES

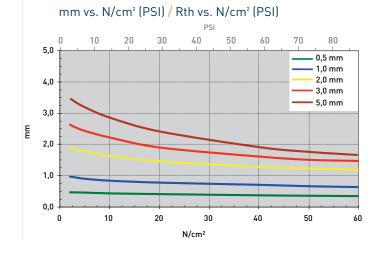
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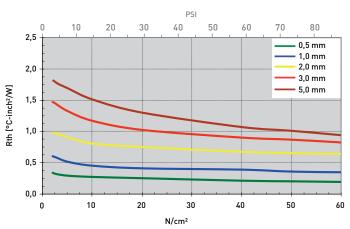
- SMD packages
- Through-hole vias
- · RDRAMs memory modules
- Flip Chips, DSPs, BGAs, PPGAs
 For use in Automotive applications
 / Laptops / Medicine engineering /
 Embedded boards

PROPERTY	UNIT	TGF-TSS0500-SI	TGF-TSS1000-SI	TGF-TSS2000-SI	TGF-TSS3000-SI	TGF-TSS5000-SI
MATERIAL		Ceramic filled silicone				
Colour		Light reddish purple				
Thickness	mm	0.5 ±0.10	1.0 ±0.15	2.0 ±0.20	3.0 ±0.25	5.0 ±0.30
Hardness	Shore 00	37	37	37	37	37
UL Flammability	UL 94	V0	V0	V0	V0	V0
RoHS Conformity	2015 / 863 / EU	Yes	Yes	Yes	Yes	Yes
THERMAL						
Resistance ¹ @ 60 PSI @ Thickness	°C-inch²/W (mm)	0.22 (0.37)	0.40 (0.70)	0.68 (1.27)	0.91 (1.60)	1.08 (1.90)
Resistance ¹ @ 30 PSI @ Thickness	°C-inch²/W (mm)	0.26 (0.41)	0.42 (0.77)	0.76 (1.45)	1.03 (1.89)	1.31 (2.40)
Resistance ¹ @ 10 PSI @ Thickness	°C-inch²/W (mm)	0.29 (0.44)	0.49 (0.86(0.86 (1.70)	1.25 (2.31)	1.61 (3.01)
Thermal Conductivity ¹	W/mK	3.2	3.2	3.2	3.2	3.2
Operating Temperature Range	°C	- 40 to + 180	- 40 to+ 180			
ELECTRICALLY						
Dielectric Strength	kV / mm	15	15	15	15	15

Measurement technique according to: 'ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information.

Thicknesses: 0.5 mm / 1.0 mm / 2.0 mm / 2.5 mm / 3.0 mm / 4.0 mm / 5.0 mm







SILICONE GAP FILLER PAD TGF-USS-SI

VERY SOFT, FLEXIBLE / LOW VOLATILE SILOXANES (LV)

TGF-USS-SI is an electrically insulating thermally conductive high performance LV silicone gap filler. It is ideal for use in applications where thermal transfer over large gaps caused e.g. by big tolerances or different stack up heigths must be achieved. Due to the specific formulation and filling with ceramic articles the silicone elastomer has a very high thermal conductivity. Through its ultra softness and flexibility the material perfectly mates to irregular surfaces thus filling gaps at minimum pressure. By its use the total thermal resistance is minimised. The natural tackiness of the material allows for an easy and reliable pre-assembly. The material is one-side tacky through lamination with a thermally conductive film.

PROPERTIES AV

- Ultra soft and compliable
- Low volatile siloxane content (LV)
- No paint wetting impairment
- Thermal conductivity: 3.3 W/mK
- · Operates at minimum pressure
- Extraordinary chemical resistance and longterm stability
- Shock absorbing
- · Easy mounting through self tackiness
- One-side self-tacky

AVAILABILITY

- Sheet 210 x 420 mm (0.5 3.0 mm)
- Tacky on one side by film laminate (TGF-USSXXXX-SI-A1)
- · Die cut parts
- Kiss cut parts on sheet

APPLICATION EXAMPLES

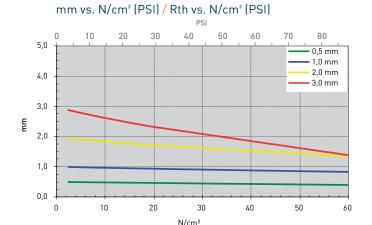
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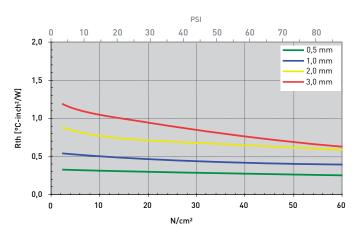
- SMD packages
- · Through-hole vias
- · RDRAMs memory modules
- Flip Chips, DSPs, BGAs, PPGAs For use in Automotive applications / Laptops / Medicine engineering / Embedded boards

PROPERTY	UNIT	TGF-USS0500-SI-A1	TGF-USS1000-SI-A1	TGF-USS2000-SI-A1	TGF-USS3000-SI-A1
MATERIAL		Ceramic filled silicone	Ceramic filled silicone	Ceramic filled silicone	Ceramic filled silicone
Colour	•	Dark grey / Grey			
Thickness	mm	0.5 +0.20	1.0 +0.20	2.0 ±0.20	3.0 ±0.30
Hardness	Shore 00	45	45	45	45
No Paint Wetting Impairment Substances (PWIS)¹		Passed	Passed	Passed	Passed
UL Flammability (Equivalent)	UL 94	V0	V0	V0	VO
RoHS Conformity	2015 / 863 / EU	Yes	Yes	Yes	Yes
THERMAL					
Resistance ² @ 60 PSI @ Thickness	°C-inch²/W (mm)	0.26 (0.47)	0.40 (0.87)	0.63 (1.55)	0.75 (1.84)
Resistance ² @ 30 PSI @ Thickness	°C-inch²/W (mm)	0.29 (0.48)	0.45 (0.93)	0.70 (1.70)	0.94 (2.30)
Resistance ² @ 10 PSI @ Thickness	°C-inch²/W (mm)	0.31 (0.49)	0.51 (0.99)	0.80 (1.85)	1.07 (2.68)
Thermal Conductivity ¹	W/mK	3.3	3.3	3.3	3.3
Operating Temperature Range	°C	- 40 to + 150			
ELECTRICAL					
Breakdown Voltage	kV/mm	>10	>10	>10	>10
Volume Resistivity	Ohm - cm	1.0 x 10 ¹⁰			

Test Methods: 'P-VW 3-10.7 57650 Temp. Test, 'ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information.

Thicknesses: 0.5 mm / 1.0 mm / 2.0 mm / 3.0 mm







SILICONE GAP FILLER PAD TGF-WSS-SI

VERY SOFT, FLEXIBLE

TGF-WSS-SI is an electrically insulating thermally conductive high performance silicone gap filler. It is ideal for use in applications where thermal transfer over large gaps caused e.g. by big tolerances or different stack up heights must be achieved. Due to the specific formulation and filling with ceramic particles the silicone elastomer has an extremely high thermal conductivity. Through its high softness and flexibility the material perfectly mates to irregular surfaces thus filling gaps at very low pressure. By its use the total thermal resistance is minimised. The natural tackiness of the material allows for an easy and reliable pre-assembly.



PROPERTIES

- Very soft and compliable
- Thermal conductivity: 5.5 W/mK
- Operates at very low pressure
- Extraordinary chemical resistance and longterm stability
- Shock absorbing
- Easy mounting through self tackiness
- · One or two-side self-tacky

AVAILABILITY

- Sheet 460 x 100 mm
- · Tacky on both sides (TGF-WSSXXXX-SI)
- Tacky on one side (TGF-WSSXXXX-A1)
- Die cut parts
- · Kiss cut parts on sheet

APPLICATION EXAMPLES

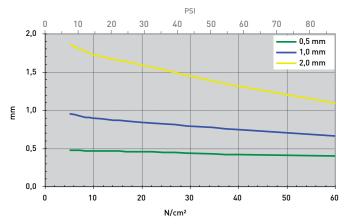
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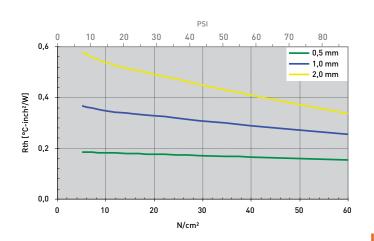
- SMD packages
- · Through-hole vias
- · RDRAMs memory modules
- Flip Chips, DSPs, BGAs, PPGAs
 For use in Automotive applications
 / Laptops / Medicine engineering /
 Embedded boards

PROPERTY	UNIT	TGF-WSS0500-SI	TGF-WSS1000-SI	TGF-WSS2000-SI
MATERIAL		Ceramic filled silicone	Ceramic filled silicone	Ceramic filled silicone
Colour		Grey	Grey	Grey
Thickness	mm	0.5 ±0.05	1.0 ±0.10	2.0 ±0.20
Hardness	Shore 00	55	55	55
UL Flammability	UL 94	VO	V0	VO
RoHS Conformity	2015 / 863 / EU	Yes	Yes	Yes
THERMAL				
Resistance ¹ @ 60 PSI @ Thickness	°C-inch²/W (mm)	0.16 (0.41)	0.30 (0.75)	0.41 (1.32)
Resistance ¹ @ 30 PSI @ Thickness	°C-inch²/W (mm)	0.18 (0.46)	0.32 (0.85)	0.49 (1.59)
Resistance ¹ @ 10 PSI @ Thickness	°C-inch²/W (mm)	0.19 (0.48)	0.36 (0.93)	0.56 (1.80)
Thermal Conductivity ¹	W/mK	5.5	5.5	5.5
Operating Temperature Range	°C	- 60 to + 180	- 60 to + 180	- 60 to + 180
ELECTRICAL				
Dielectric Strength	kV/mm	10	10	10
Volume Resistivity	Ohm - cm	1.0 x 10 ¹³	1.0 x 10 ¹³	1.0 x 10 ¹³

Measurement technique according to: 'ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information.

Thicknesses: 0.5 mm / 1.0 mm / 2.0 mm







SILICONE GAP FILLER PAD TGF-DXS-SI-GF

ULTRA SOFT, WITH FIBREGLASS REINFORCEMENT

TGF-DXS-SI-GF is an electrically insulating thermally conductive silicone gap filler. It is ideal for use in applications where thermal transfer over large gaps caused e.g. by big tolerances or different stack up heights must be achieved. Due to the specific formulation and filling with ceramic particles the silicone elastomer has a good thermal conductivity. Through its ultra softness and flexibility the material perfectly mates to irregular surfaces thus filling gaps at minimum pressure. By its use the total thermal resistance is minimised. The natural tackiness of the material allows for an easy and reliable pre-assembly. The conductive fibreglass reinforced silicone laminate on one side provides for a high mechanic stability and strength.

PROPERTIES

- Ultra soft and compliable
- Thermal conductivity: 1.3 W/mK
- · Operates at minimum pressure
- Extraordinary chemical resistance and longterm stability
- Shock absorbing
- Easy mounting through self tackiness
- · One-side self-tacky

AVAILABILITY

- Sheet 200 x 400 mm (0.5 3.0 mm)
- Tacky on one side by fibreglass reinforced laminate (TGF-DXSXXXX-SI-GF)
- · Die cut parts
- · Kiss cut parts on sheet

APPLICATION EXAMPLES

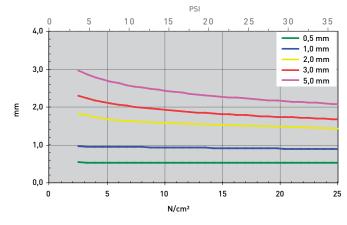
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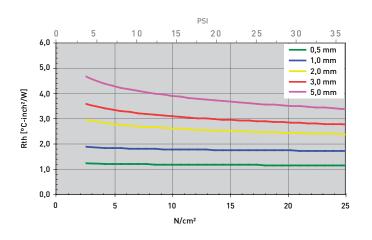
- SMD packages
- · Through-hole vias
- Capacitors
- Electronic parts to heat pipes For use in Automotive applications / Laptops / Medicine engineering / Industrial PCs

PROPERTY	UNIT	TGF-DXS1000-SI-GF	TGF-DXS2000-SI-GF	TGF-DXS3000-SI-GF	TGF-DXS5000-SI-GF
MATERIAL		Ceramic filled silicone	Ceramic filled silicone	Ceramic filled silicone	Ceramic filled silicone
Colour		White / Pink	White / Pink	White / Pink	White / Pink
Reinforcement		Fibreglass laminate	Fibreglass laminate	Fibreglass laminate	Fibreglass laminate
Thickness	mm	1.0 +0.10	2.0 +0.20	3.0 +0.30	5.0 + 0.50
Hardness	Shore 00	5	5	5	5
UL Flammability	UL 94	V0	V0	V0	V0
RoHS Conformity	2015 / 863 / EU	Yes	Yes	Yes	Yes
THERMAL					
Resistance ¹ @ 35 PSI @ Thickness	°C-inch²/W (mm)	1.77 (0.94)	2.43 (1.40)	2.80 (1.65)	3.40 (2.10)
Resistance¹ @ 15 PSI @ Thickness	°C-inch²/W (mm)	1.85 (0.95)	2.70 (1.60)	3.10 (1.95)	3.95 (2.55)
Resistance ¹ @ 7 PSI @ Thickness	°C-inch²/W (mm)	1.86 (0.97)	2.80 (1.70)	3.30 (2.20)	4.40 (2.70)
Thermal Conductivity	W/mK	1.3	1.3	1.3	1.3
Operating Temperature Range	°C	- 40 to + 180			
ELECTRICAL					
Dielectric Strength	kV/mm	6	6	6	6
Volume Resistivity	0hm - cm	6.2 x 10 ¹⁵			
Dielectric Constant	@ 1 MHz	5.27	5.27	5.27	5.27
				. .	

Measurement technique according to: 'ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information.

Thicknesses: $0.5 \, \text{mm} / 1.0 \, \text{mm} / 2.0 \, \text{mm} / 3.0 \, \text{mm} / 4.0 \, \text{mm} / 5.0 \, \text{mm} / 6.0 \, \text{mm} / 7.0 \, \text{mm} / 8.0 \, \text{mm} / 9.0 \, \text{mm} / 10.0 \, \text{mm}$







SILICONE GAP FILLER PAD TGF-EXS-SI-GF

ULTRA SOFT, FLEXIBLE

TGF-EXS-SI-GF is an electrically insulating thermally conductive silicone gap filler. It is ideal for use in applications where thermal transfer over large gaps caused e.g. by big tolerances or different stack up heights must be achieved. Due to the specific formulation and filling with ceramic particles the silicone elastomer has a high thermal conductivity. Through its ultra softness and flexibility the material perfectly mates to irregular surfaces thus filling gaps at minimum pressure. By its use the total thermal resistance is minimised. The natural tackiness of the material allows for an easy and reliable pre-assembly. The conductive fiberglass reinforced silicone laminate on one side allows for a high mechanic stability and strength.



PROPERTIES

- · Ultra soft and compliable
- Thermal conductivity: 1.4 W/mK
- Operates at minimum pressure
- Extraordinary chemical resistance and longterm stability
- Shock absorbing
- Easy mounting through self tackiness
- · One-side self-tacky

AVAILABILITY

- Sheet 300 x 400 mm
- Tacky on one side by fibreglass rein forced laminate (TGF-EXSXXXX-SI-GF)
- · Die cut parts
- · Kiss cut parts on sheet

APPLICATION EXAMPLES

Thermal link of:

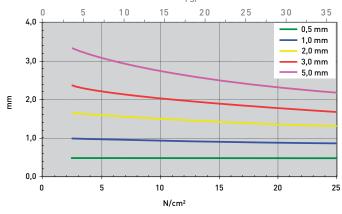
- SMD packages
- · Through-hole vias
- · RDRAMs memory modules
- Flip Chips, DSPs, BGAs, PPGAs
 For use in Automotive applications
 / Laptops / Medicine engineering /
 Embedded boards

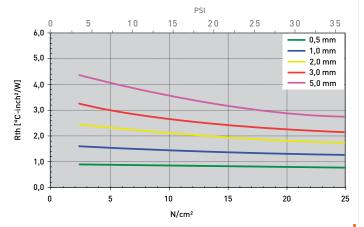
PROPERTY	UNIT	TGF-EXS0500- SI-GF	TGF-EXS1000- SI-GF	TGF-EXS2000- SI-GF	TGF-EXS3000- SI-GF	TGF-EXS5000- SI-GF
MATERIAL		Ceramic filled silicone				
Colour		Reddish brown / Grey				
Reinforcement		Fibreglass laminate	Fibreglass laminate	Fibreglass laminate	Fibreglass laminate	Fibreglass laminate
Thickness	mm	0.5 ±0.10	1.0 ±0.15	2.0 ±0.25	3.0 ±0.25	5.0 ±0.30
Hardness	Shore 00	10	10	10	10	10
UL Flammability	UL 94	V0	V0	V0	V0	V0
RoHS Conformity	2015 / 863 / EU	Yes	Yes	Yes	Yes	Yes
THERMAL						
Resistance ¹ @ 35 PSI @ Thickness	°C-inch²/W (mm)	0.76 (0.46)	1.26 (0.86)	1.73 (1.30)	2.14 (1.68)	2.73 (2.17)
Resistance ¹ @ 15 PSI @ Thickness	°C-inch²/W (mm)	0.85 (0.47)	1.44 (0.92)	2.07 (1.50)	2.63 (2.03)	3.58 (2.72)
Resistance ¹ @ 7 PSI @ Thickness	°C-inch²/W (mm)	0.89 (0.48)	1.54 (0.95)	2.31 (1.58)	3.00 (2.20)	4,08 (3.06)
Thermal Conductivity ¹	W/mK	1.4	1.4	1.4	1.4	1.4
Operating Temperature Range	°C	- 40 to + 180				
ELECTRICALLY						
Dielectric Strength	kV/mm	20	20	20	20	20

 $Measurement \ technique \ according \ to: \ 'ASTM \ D \ 5470. \ All \ data \ without \ warranty \ and \ subject \ to \ change. \ Please \ contact \ us \ for \ further \ data \ and \ information.$

Thicknesses: 0.5 mm / 1.0 mm / 1.5 mm / 2.0 mm / 3.0 mm / 4.0 mm / 5.0 mm









SILICONE GAP FILLER PAD TGF-YP-SI

PLASTIC

TTGF-YP-SI is an electrically insulating thermally conductive very high performance silicone gap filler. It is ideal for use in applications where a very good thermal transfer over large gaps caused e.g. by big tolerances or different stack up heights must be achieved. Due to the specific formulation and filling with ceramic particles the silicone elastomer has an outstandingly high thermal conductivity. Through its softness and plasticity the material perfectly mates to irregular surfaces thus filling gaps at low pressure. By its use the total thermal resistance is minimised. The natural tackiness of the material allows for an easy and reliable pre-assembly.

PROPERTIES

- Plastic
- Soft and compliable
- Thermal conductivity: 7.0 W/mK
- Extraordinary chemical resistance and longterm stability
- Two-side self-tacky

AVAILABILITY

- Sheet 460 x 100 mm
- · Tacky on both sides (TGF-YPXXXX-SI)
- Die cut parts
- Kiss cut parts on sheet

APPLICATION EXAMPLES

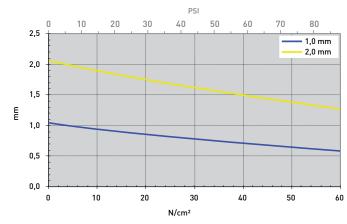
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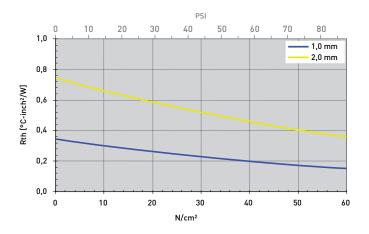
- SMD packages
- · Through-hole vias
- Capacitors
- Electronic parts to heat pipes For use in Automotive applications / Laptops / Medicine engineering / Industrial PCs

PROPERTY	UNIT	TGF-YP1000-SI	TGF-YP2000-SI
MATERIAL		Ceramic filled silicone	Ceramic filled silicone
Colour		Grey	Grey
Thickness	mm	1.0 ±0.10	2.0 ^{±0.20}
Hardness	Shore 00	55	55
UL Flammability (Equivalent)	UL 94	V0	V0
RoHS Conformity	2015 / 863 / EU	Yes	Yes
THERMAL			
Resistance ¹ @ 60 PSI @ Thickness	°C-inch²/W (mm)	0.20 (0.75)	0.45 (1.50)
Resistance¹ @ 30 PSI @ Thickness	°C-inch²/W (mm)	0.27 (0.90)	0.59 (1.75)
Resistance¹ @ 10 PSI @ Thickness	°C-inch²/W (mm)	0.32 (0.95)	0.67 (1.90)
Thermal Conductivity	W/mK	7.0	7.0
Operating Temperature Range	°C	- 40 to + 150	- 40 to + 150
ELECTRICALLY			
Dielectric Strength	kV / mm	>10	>10
Volume Resistivity	0hm - cm	> 1.0 x 10 ¹²	> 1.0 x 10 ¹²
Dielectric Constant	@ 1 MHz	7	7

Measurement technique according to: 'ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information.

Thicknesses: 1.0 mm / 2.0 mm / 3.0 mm







SILICONE GAP FILLER PAD TGF-ZP-SI

PLASTIC

TGF-ZP-SI is an electrically insulating thermally conductive silicone gap filler. It is ideal for use in applications where thermal transfer over large gaps caused e.g. by big tolerances or different stack up heights must be achieved. Due to the specific formulation and filling with ceramic particles the silicone elastomer has an extremely high thermal conductivity. Through its extreme softness and plasticity the material perfectly mates to irregular surfaces thus filling gaps at almost zero pressure. By its use the total thermal resistance is minimised. The natural tackiness of the material allows for an easy and reliable pre-assembly.



PROPERTIES

- Plastic
- Extremely soft and compliable
- Thermal conductivity: 11 W/mK
- Operates at almost zero pressure
- For minimal gaps
- Extraordinary chemical resistance and longterm stability
- Easy mounting through self tackiness

AVAILABILITY

- Sheet 300 x 200 mm
- Tacky on both sides (TGF-ZPXXXX-SI)
- Die cut parts
- · Kiss cut parts on sheet

APPLICATION EXAMPLES

Thermal link of:

- SMD packages
- Through-hole vias
- · RDRAMs memory modules
- Capacitors

For use in Automotive applications / Laptops / Medicine engineering / Embedded boards

PROPERTY	UNIT	TGF-ZP1500-SI	TGF-ZP2000-SI
MATERIAL		Ceramic filled silicone	Ceramic filled silicone
Colour		Light grey	Light grey
Reinforcement		None	None
Thickness	mm	1.5 + 0.50	2.0 +0.70
Density	g/cm³	3.3	3.3
UL Flammability	UL 94	V0	V0
RoHS Conformity	2015 / 863 / EU	Yes	Yes
THERMAL			
Resistance¹ @ 1.5 mm	°C-inch²/W		0.24
Resistance¹ @ 0.8 mm	°C-inch²/W	0.14	0.14
Resistance¹ @ 0.5 mm	°C-inch²/W	0.10	0.10
Resistance¹ @ 0.2 mm	°C-inch²/W	0.06	0.06
Thermal Conductivity	W/mK	11	11
Operating Temperature Range	°C	- 50 to + 180	-50 to + 180
ELECTRICAL			
Dielectric Strength	kV / mm	11	11
Dielectric Constant	@ 1 MHz	7.5	7.5
Volume Resistivity	Ohm - cm	7.0 x 10 ⁷	7.0 x 10 ⁷

Measurement technique according to: 'ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information.

Thicknesses: 1.5 mm / 2.0 mm



SILICONE GAP FILLER PAD TEL-R-SI

HIGHLY THERMALLY CONDUCTIVE ELASTOMER / LOW VOLATILE SILOXANES (LV)

TEL-R-SI is a low dielectric, high performance thermally conductive LV silicone gap filler for an optimised thermal coupling between electronic packages and heat sinks even over large gaps or big tolerances. Through the specific formulation and filling with highly thermally conductive particles an extraordinary high anisotropic thermal conductivity is reached. Its conformal surface structure and extreme softness guarantee a very good compliance to the contact surfaces at very low pressure. Thus the total thermal resistance is minimised. The elastomer shows a low dielectric strength.



PROPERTIES

- High surface compliance and extremely soft
- · Low volatile siloxane content (LV)
- Thermal conductivity:15 W/mK (anisotropic)
- · Low dielectric
- Extraordinary chemical resistance and longterm stability
- Shock absorbing

AVAILABILITY

- Sheet 150 x 150 mm (Thickness 0.25 –1.5 mm)
- Sheet 140 x 140 mm (Thickness 2.0 3.0 mm)
- · Double-side self tacky (TEL-RXXXX-SI)
- Die cut parts
- · Kiss cut parts on sheet

APPLICATION EXAMPLES

Thermal link of:

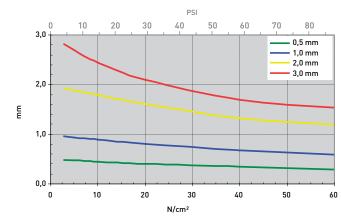
- MOSFETs und IGBTs
- Power diodes or AC/DC converters
- Power modules
- CPUs

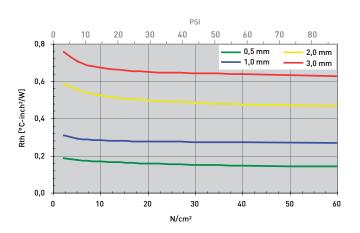
For use in Switch mode power supplies / Motor control units / Automotive engine management systems / UPS units / Solar systems

PROPERTY	UNIT	TEL-R0500-SI	TEL-R1000-SI	TEL-R2000-SI
MATERIAL		Silicone with highly thermally conductive fillers	Silicone with highly thermally conductive fillers	Silicone with highly thermally conductive fillers
Colour	***************************************	Black	Black	Black
Thickness	mm	0.5 ±0.05	1.0 ±0.10	2.0 ±0.20
Hardness	Shore 00	55	55	55
Flammability (Equivalent)	UL 94	V0	VO	V0
RoHS Conformity	2015 / 863 / EU	Yes	Yes	Yes
THERMAL				
Resistance ¹ @ 90 PSI Thickness	°C-inch²/W (mm)	0.15 (0.30)	0.27 (0.60)	0.47 (1.20)
Resistance¹ @ 30 PSI @ Thickness	°C-inch²/W (mm)	0.16 (0.41)	0.28 (0.81)	0.50 (1.61)
Resistance¹ @ 10 PSI @ Thickness	°C-inch²/W (mm)	0.18 (0.47)	0.29 (0.93)	0.54 (1.85)
Thermal Conductivity	W/mK	15	15	15
Operating Temperature Range	°C	- 50 to + 180	- 50 to + 180	- 50 to + 180
ELECTRICAL				
Dielectric Strength	kV/mm	1.0	1.0	1.0
Volume Resistivity	Ohm - cm	≥ 1 x 10 ¹²	≥ 1 x 10 ¹²	≥ 1 x 10 ¹²

Measurement technique according to: 'ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information.

Thicknesses: 0.25 mm / 0.5 mm / 1.5 mm / 1.0 mm / 2.0 mm / 3.0 mm







SILICONE GAP FILLER PAD TEL-Z-SI

HIGHLY THERMALLY CONDUCTIVE ELASTOMER / LOW VOLATILE SILOXANES (LV)

TEL-Z-SI is a non dielectric high performance thermally conductive LV silicone foil for an optimised thermal coupling between electronic packages and heat sinks even over large gaps or big tolerances. Through the specific formulation and filling an extraordinary high anisotropic thermal conductivity is reached. Its conformal surface structure and high softness guarantee a very good compliance to the contact surfaces at low pressure. Thus the total thermal resistance is minimised.



PROPERTIES

- High surface compliance and softness
- · Low volatile siloxane content (LV)
- Non dielectric
- No paint wetting impairment
- Thermal conductivity: 50 W/mK (anisotropic)
- Extraordinary chemical resistance and longterm stability
- Shock absorbing

AVAILABILITY

- · Sheet 140 x 140 mm (TEL-ZXXXX-SI)
- Die cut parts
- Optional with adhesive stripes or dots (TEL-ZXXXX-SI-A1)

APPLICATION EXAMPLES

Thermal link of:

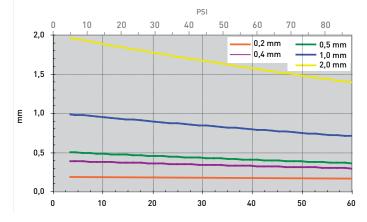
- MOSFETs or IGBTs
- Power diodes or AC/DC converters
- · Power modules

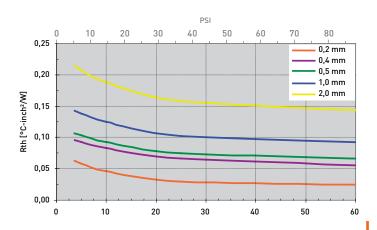
For use in Switch mode power supplies / Motor control units / Automotive engine management systems / UPS units / Solar systems

PROPERTY	UNIT	TEL-Z0200-SI	TEL-Z0500-SI	TEL-Z1000-SI
MATERIAL		Graphite filled silicone elastomere	Graphite filled silicone elastomere	Graphite filled silicone elastomere
Colour		Black	Black	Black
Thickness	mm	0.2 ±0.05	0.5 ±0.05	1.0 ±0.10
Hardness	Shore 00	75	75	75
No Paint Wetting Impairment Substances (PWIS)1	•••••	Passed	Passed	Passed
Flammability	UL 94	V0	V0	V0
RoHS Conformity	2015 / 863 / EU	Yes	Yes	Yes
THERMAL				
Resistance ² @ 90 PSI @ Thickness	°C-inch²/W (mm)	0.020 (0.16)	0.060 (0.33)	0.09 (0.70)
Resistance ² @ 30 PSI @ Thickness	°C-inch²/W (mm)	0.027 (0.18)	0.075 (0.48)	0.11 (0.91)
Resistance ² @ 10 PSI @ Thickness	°C-inch²/W (mm)	0.050 (0.19)	0.095 (0.49)	0.13 (0.97)
Thermal Conductivity	W/mK	50	50	50
Operating Temperature Range	°C	- 50 to + 180	- 50 to + 180	- 50 to + 180
ELECTRICAL				
Volume Resistivity	0hm - cm	< 50.000	< 50.000	< 50.000

Measurement technique according to: 1P-VW 3-10.7 57650 Temp. Test, ² ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information. Shelf life adhesive: 6 months when stored in original packaging at room temperature and 50% relative humidity.

Thicknesses: 0.2 mm / 0.4 mm / 0.5 mm / 1.0 mm / 2.0 mm







SILICONE GAP FILLER PAD TEL-YSS-SI

VERY SOFT, HIGHLY THERMALLY CONDUCTIVE ELASTOMER / LOW VOLATILE SILOXANES (LV)

TEL-YSS-SI is a non dielectric high performance thermally conductive LV silicone gap filler for an optimised thermal coupling between electronic packages and heat sinks even over large gaps or big tolerances. Through the specific formulation and filling an extraordinary high anisotropic thermal conductivity is reached. Its conformal surface structure and extraordinary softness guarantee a very good compliance to the contact surfaces at low pressure. Thus the total thermal resistance is minimised.



PROPERTIES

- High surface compliance and extraordinary soft
- Low volatile siloxane content (LV)
- · Non dielectric
- Thermal conductivity: 16 W/mK (anisotropic)
- Extraordinary chemical resistance and longterm stability
- Shock absorbing

AVAILABILITY

- · Sheet 130 x 130 mm (TEL-YSSXXXX-SI)
- Die cut parts
- Optional with adhesive stripes or dots (TEL-YSSXXXX-SI-A1)

APPLICATION EXAMPLES

Thermal link of:

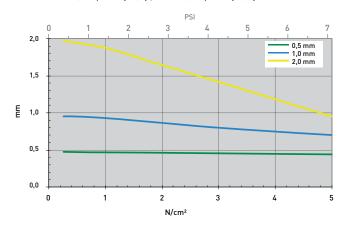
- MOSFETs und IGBTs
- Power diodes or AC/DC converters
- Power modules

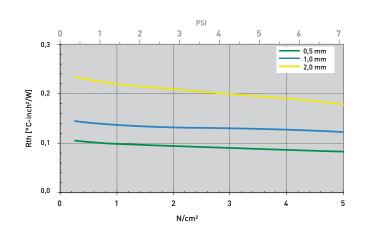
For use in Switch mode power supplies / Motor control units / Automotive engine management systems / UPS units / Solar systems

PROPERTY	UNIT	TEL-YSS0500-SI	TEL-YSS1000-SI	TEL-YSS2000-SI
MATERIAL		Graphite filled silicone elastomere	Graphite filled silicone elastomere	Graphite filled silicone elastomere
Colour		Black	Black	Black
Thickness	mm	0.5 ±0.05	1.0 ±0.10	2.0 ±0.20
Hardness	Shore 00	40	40	40
Flammability	UL 94	V0	V0	V0
RoHS Conformity	2015 / 863 / EU	Yes	Yes	Yes
THERMAL				
Resistance ¹ @ 7.5 PSI @ Thickness	°C-inch²/W (mm)	0.083 (0.42)	0.124 (0.700)	0.180 (0.954)
Resistance ¹ @ 3.5 PSI @ Thickness	°C-inch²/W (mm)	0.089 (0.45)	0.129 (0.785)	0.205 (1.550)
Resistance ¹ @ 1.5 PSI @ Thickness	°C-inch²/W (mm)	0.100 (0.47)	0.137 (0.934)	0.220 (1.874)
Thermal Conductivity ¹	W/mK	16	16	16
Operating Temperature Range	°C	- 50 to + 180	- 50 to + 180	- 50 to + 180
ELECTRICAL				
Volume Resistivity	Ohm - cm	< 50.000	< 50.000	< 50.000

Measurement technique according to: 'ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information. Shelf life adhesive: 6 months when stored in original packaging at room temperature and 50% relative humidity.

Thicknesses: 0.5 mm / 1.0 mm / 1.5 mm / 2.0 mm / 3.0 mm







SILICONE GAP FILLER PAD TEL-ZS-SI

SOFT, HIGHLY THERMALLY CONDUCTIVE ELASTOMER / LOW VOLATILE SILOXANES (LV)

TEL-ZS-SI is a non dielectric high performance thermally conductive LV silicone foil for an optimised thermal coupling between electronic packages and heat sinks even over large gaps or big tolerances. Through the specific formulation and filling an extraordinary high anisotropic thermal conductivity is reached. Its conformal surface structure and high softness guarantee a very good compliance to the contact surfaces at low pressure. Thus the total thermal resistance is minimised.



PROPERTIES

- $\boldsymbol{\cdot}$ High surface compliance and softness
- · Low volatile siloxane content (LV)
- Non dielectric
- Thermal conductivity: 20 W/mK (anisotropic)
- Extraordinary chemical resistance and longterm stability
- Shock absorbing

AVAILABILITY

- · Sheet 120 x 120 mm (TEL-ZSXXXX-SI)
- Die cut parts
- Optional with adhesive stripes or dots (TEL-ZSXXXX-SI-A1)

APPLICATION EXAMPLES

Thermal link of:

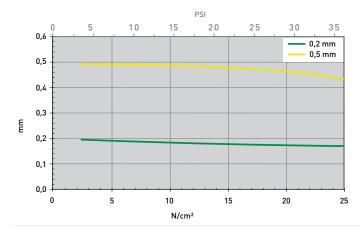
- MOSFETs or IGBTs
- · Power diodes or AC/DC converters
- Power modules

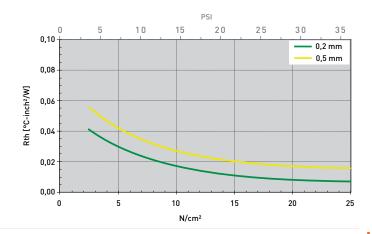
For use in Switch mode power supplies / Motor control units / Automotive engine management systems / UPS units / Solar systems

PROPERTY	UNIT	TEL-ZS0200-SI	TEL-ZS0500-SI
MATERIAL		Carbon filled silicone elastomere	Carbon filled silicone elastomere
Colour		Black	Black
Thickness	mm	0.2 ±0.05	0.5 ±0.05
Hardness	Shore 00	60	60
Flammability (Equivalent)	UL 94	V0	VO
RoHS Conformity	2015 / 863 / EU	Yes	Yes
THERMAL			
Resistance ¹ @ 35 PSI @ Thickness	°C-inch²/W (mm)	0.007 (0.17)	0.018 (0.44)
Resistance¹ @ 15 PSI @ Thickness	°C-inch²/W (mm)	0.017 (0.18)	0.027 (0.48)
Resistance¹ @ 7 PSI @ Thickness	°C-inch²/W (mm)	0.030 (0.19)	0.042 (0.49)
Thermal Conductivity ¹	W/mK	20	20
Operating Temperature Range	°C	- 40 to + 150	- 40 to + 150
ELECTRICAL			
Volume Resistivity	0hm - cm	< 50,000	< 50,000

Test Methods: 'ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information. Shelf life adhesive: 6 months when stored in original packaging at room temperature and 50% relative humidity.

Thicknesses: 0.2 mm / 0.3 mm / 0.5 mm







2-PART SILICONE GAP FILLER TDG-L-SI-2C-Y

DISPENSABLE / 2 PARTS / LOW VOLATILE SILOXANES (LV) / FORM-IN-PLACE

TDG-L-SI-2C-Y is a 2-part dispensable low volatile LV silicone gap filler which is filled with thermally conductive fillers. After curing under heat the system remains elastic. It is characterised by very good dielectric and mechanic properties and is suited for compensating extreme tolerances and spaces at non-coplanar systems. Its thixotropic behaviour allows for a definite placement and cure-in-place. It has a natural low level tack that enhances a good thermal contact. Due to its negligible and controlled volatile content it is suited for environments where volatile silicones and paint wetting impairment are critical.

PROPERTIES

- · Dispensable 2-part silicone
- Low volatile siloxane content (LV)
- No paint wetting impairment
- Thermal conductivity: 2.0 W/mK
- Remains elastic after polymerisation
- · Zero stress on components
- Heat accelerated curing
- Shock absorbing

AVAILABILITY

- Optional in blue colour:
- TDG-L-SI-2C
- Cartridges 2 x 25 ml / 2 x 100 ml / 2 x 200 ml / 2 x 600 ml
- Pail 2 x 25 kg / 2 x 35 kg
- On request

APPLICATION EXAMPLES

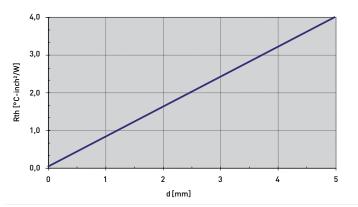
Thermal link of:

- FPBGA
- Capacitors
- · Heat Pipes
- BGA

For use in Automotive applications / Telecommunication / Multimedia / Industrial PCs

PROPERTY	UNIT	A Part	B Part
MATERIAL		Silicone	Silicone
Colour		Yellow	White
Density @ 25 °C	g/cm³	1.9	1.9
Mixing Ratio	Weight or Volume	1:1	1:1
Hardness	Shore 00	52	52
Viscosity (Brookfield @ 10 rpm, 25 °C)	Pas	260	260
Viscosity (mixed) (Brookfield @ 10 rpm, 25 °C)	Pas	260	260
Pot Life @ 25 °C and 65 % RH (Time for viscosity to double)	min	> 120	> 120
Curing Time @ 25 °C / 100 °C		< 24h / 15 - 30 min	< 24h / 15 - 30 min
Shelf Life (from Date of Manufacturing, unopened, @ < 35 °C)	Months	6	6
Outgasing ¹	TML/CVCM/WVR%	0.16 / 0.03 / 0.04	0.16 / 0.03 / 0.04
No Paint Wetting Impairment Substances (PWIS) ²	•••••••••••	Passed	Passed
Flammability	UL 94	VO	VO
RoHS Conformity	2015 / 863 / EU	Yes	Yes
TECHNICAL	·		
Thermal Conductivity ³	W/mK	2.0	2.0
Operating Temperature	°C	- 50 to + 150	- 50 to + 150
Dielectric Strength	kV/mm	> 10	> 10
Volume Resistivity	Ohm - cm	1 x 10 ¹⁰	1 x 10 ¹⁰

Measurement technique according to: \(^1\ASTM E 595,^2P-VW 3-10.7 \) 57650 Temp. Test, \(^3\ASTM D 5470. \) All data without warranty and subject to change. Please contact us for further data and information.





2-PART SILICONE GAP FILLER TDG-T-SI-2C

DISPENSABLE / 2 PARTS / LOW VOLATILE SILOXANES (LV) / FORM-IN-PLACE

TDG-T-SI-2C is a 2-part dispensable low volatile LV silicone gap filler which is filled with thermally conductive fillers. After curing under heat the system remains elastic. It is characterised by very good dielectric and mechanic properties and is suited for compensating extreme tolerances and spaces at non-coplanar systems. Its thixotropic behaviour allows for a definite placement and cure-in-place. It has a natural low level tack that enhances a good thermal contact. Due to its negligible and controlled volatile content it is suited for environments where volatile silicones and paint wetting impairment are critical.



PROPERTIES

- · Dispensable 2-part silicone
- Low volatile siloxane content (LV)
- No paint wetting impairment
- Thermal conductivity: 3.0 W/mK
- Remains elastic after polymerisation
- · Zero stress on components
- Heat accelerated curing
- Shock absorbing

AVAILABILITY

- Cartridges 2 x 25 ml / 2 x 100 ml / 2 x 200 ml / 2 x 600 ml
- Pail 2 x 25 kg / 2 x 35 kg
- On request

APPLICATION EXAMPLES

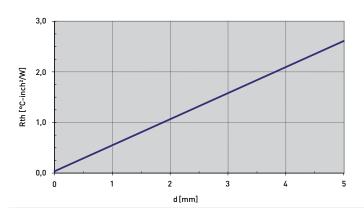
Thermal link of:

- FPBGA
- Capacitors
- · Heat Pipes
- BGA

For use in Automotive applications / Telecommunication / Multimedia / Industrial PCs

PROPERTY	UNIT	A Part	B Part
MATERIAL		Silicone	Silicone
Colour	•••••••••••••••••••••••••••••••••••••••	Blue	White
Density @ 25 °C	g/cm³	2.75	2.75
Mixing Ratio	Weight or Volume	1:1	1:1
Hardness	Shore 00	55	55
Viscosity (Brookfield @ 10 rpm, 25 °C)	Pas	290	260
Viscosity (mixed) (Brookfield @ 10 rpm, 25 °C)	Pas	275	275
Pot Life @ 25 °C and 65 % RH (Time for viscosity to double)	min	> 120	> 120
Curing Time @ 25 °C / 100 °C		< 15h / 15 - 30 min	< 15h / 15 - 30 min
Shelf Life (from Date of Manufacturing, unopened, @ < 35 °C)	Months	6	6
Outgasing ¹	TML/CVCM/WVR%	0.07 / 0.02 / 0.02	0.07 / 0.02 / 0.02
No Paint Wetting Impairment Substances (PWIS) ²		Passed	Passed
Flammability	UL 94	VO	VO
RoHS Conformity	2015 / 863 / EU	Yes	Yes
TECHNICAL			
Thermal Conductivity ³	W/mK	3.0	3.0
Operating Temperature	°C	- 50 to + 150	- 50 to + 150
Dielectric Strength	kV/mm	> 10	> 10
Volume Resistivity	0hm - cm	1 x 10 ¹⁰	1 x 10 ¹⁰

Measurement technique according to: 1ASTM E 595, 2P-VW 3-10.7 57650 Temp. Test, 3ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information





2-PART SILICONE GAP FILLER TDG-U-SI-2C

DISPENSABLE / 2 PARTS / LOW VOLATILE SILOXANES (LV) / FORM-IN-PLACE

TDG-U-SI-2C is a 2-part dispensable low volatile LV silicone gap filler which is filled with thermally conductive fillers. After curing under heat the system remains elastic. It is characterised by very good dielectric and mechanic properties and is suited for compensating extreme tolerances and spaces at non-coplanar systems. Its thixotropic behaviour allows for a definite placement and cure-in-place. It has a natural low level tack that enhances a good thermal contact. Due to its negligible and controlled volatile content it is suited for environments where volatile silicones and paint wetting impairment are critical.

od thermal contact. Due to its negligible and controlled environments where volatile silicones and paint wetting

PROPERTIES

- · Dispensable 2-part silicone
- Low volatile siloxane content (LV)
- No paint wetting impairment
- Thermal conductivity: 3.6 W/mK
- Remains elastic after polymerisation
- · Zero stress on components
- Heat accelerated curing
- Shock absorbing

AVAILABILITY

- Cartridges 2 x 25 ml / 2 x 100 ml / 2 x 200 ml / 2 x 600 ml
- Pail 2 x 25 kg / 2 x 35 kg
- On requestt

APPLICATION EXAMPLES

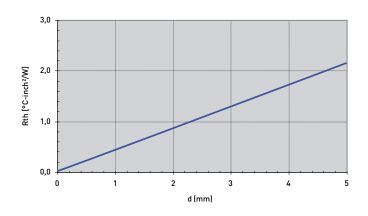
Thermal link of:

- FPBGA
- Capacitors
- · Heat Pipes
- BGA

For use in Automotive applications / Telecommunication / Multimedia / Industrial PCs

UNIT	A Part	B Part
	Silicone	Silicone
•••••••••••••••••••••••••••••••••••••••	Light Blue	White
g/cm³	2.85	2.85
Weight or Volume	1:1	1 : 1
Shore 00	38	38
Pas	220	190
Pas	260	260
min	> 100	> 100
	< 15h / 15 - 30 min	< 15h / 15 - 30 min
Months	6	6
TML/CVCM/WVR %	0.07 / 0.02 / 0.04	0.07 / 0.02 / 0.04
	Passed	Passed
UL 94	VO	VO
2015 / 863 / EU	Yes	Yes
W/mK	3.6	3.6
°C	- 50 to + 150	- 50 to + 150
kV/mm	> 10	> 10
Ohm - cm	1 x 10 ¹⁰	1 x 10 ¹⁰
	g/cm³ Weight or Volume Shore 00 Pas Pas min Months TML/CVCM/WVR % UL 94 2015/863/EU W/mK °C kV/mm	Silicone

Measurement technique according to: 1ASTM E 595, 2P-VW 3-10.7 57650 Temp. Test, 3ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information.





2-PART SILICONE GAP FILLER TDG-W-SI-2C

DISPENSABLE / 2 PARTS / LOW VOLATILE SILOXANES (LV) / FORM-IN-PLACE

TDG-W-SI-2C is a 2-part dispensable low volatile LV silicone gap filler which is filled with thermally conductive fillers. After curing under heat the system remains elastic. It is characterised by very good dielectric and mechanic properties and is suited for compensating extreme tolerances and spaces at non-coplanar systems. Its thixotropic behaviour allows for a definite placement and cure-in-place. It has a natural low level tack that enhances a good thermal contact. Due to its negligible and controlled volatile content it is suited for environments where volatile silicones and paint wetting impairment are critical.



PROPERTIES

- · Dispensable 2-part silicone
- Low volatile siloxane content (LV)
- No paint wetting impairment
- Thermal conductivity: 4.5 W/mK
- Remains elastic after polymerisation
- · Zero stress on components
- Heat accelerated curing
- Shock absorbing

AVAILABILITY

- Cartridges 2 x 25 ml / 2 x 100 ml / 2 x 200 ml / 2 x 600 ml
- Pail 2 x 25 kg
- On request

APPLICATION EXAMPLES

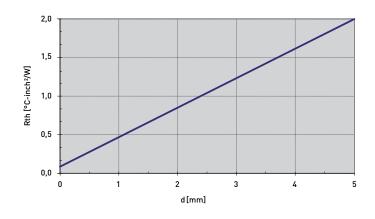
Thermal link of:

- FPBGA
- Capacitors
- · Heat Pipes
- BGA

For use in Automotive applications / Telecommunication / Multimedia / Industrial PCs

PROPERTY	UNIT	A Part	B Part
MATERIAL		Silicone	Silicone
Colour	••••••••••	Pink	White
Density @ 25 °C	g/cm³	3.15	3.15
Mixing Ratio	Weight or Volume	1:1	1:1
Hardness	Shore 00	55	55
Viscosity (Brookfield @ 10 rpm, 25 °C)	Pas	250	250
Viscosity (mixed) (Brookfield @ 10 rpm, 25 °C)	Pas	250	250
Pot Life @ 25 °C and 65 % RH (Time for viscosity to double)	min	> 120	> 120
Curing Time @ 25 °C / 100 °C		< 24 h / 15-30 min	< 24 h / 15-30 min
Shelf Life (from Date of Manu- facturing, unopened, @ < 35 °C)	Months	6	6
No Paint Wetting Impairment Substances (PWIS)'		Passed	Passed
Flammability	UL 94	V0 (≥ 0.15 mm)	V0 (≥ 0.15 mm)
RoHS Conformity	2015 / 863 / EU	Yes	Yes
TECHNICAL			
Thermal Conductivity²	W/mK	4.5	4.5
Operating Temperature	°C	- 40 to + 150	- 40 to + 150
Dielectric Strength	kV/mm	> 10	> 10
Volume Resistivity	0hm - cm	> 1 x 10 ¹⁰	> 1 x 10 ¹⁰

Measurement technique according to: 'P-VW 3-10.7 57650 Temp. Test, 'ASTM D 5470. All data without warranty and subject to change. Please contact us for further data and information.





SILICONE GAP FILLER / PUTTY TGL-W-SI

DISPENSABLE

TGL-W-SI is an electrically insulating thermally conductive, highly viscuous dispensable form-inplace gap filler. It is ideal for use in applications where thermal transfer over large gaps caused e.g. by big tolerances or different stack up heights must be achieved. The ready-made compound does not require an additional curing process. Due to the specific formulation and filling with ceramic particles the material has a very high thermal conductivity. After dispensing the viscoplastic material leads to an optimum thermal contact at no pressure. By its use the total thermal resistance is minimised.



PROPERTIES

- Dispensable
- Almost zero pressure at assembly due to viscoplasticity
- Thermal conductivity: 5.5 W/mK
- Ready-made, no additional curing required

AVAILABILITY

- · Cartridges 30 ml
- •Tube 250 g
- Pail 2 kg
- Others on request

APPLICATION EXAMPLES

Thermal link of:

- SMD packages
- Through-hole vias
- RDRAMs memory modules
- Flip Chips, DSPs, BGAs, PPGAs For use in Automotive applications / Laptops / Medicine engineering / Industrial PCs

PROPERTY	UNIT	TGL-W-SI
MATERIAL		Ceramic filled silicone compound
Colour		Grey
Density	g/cm³	3.1
Penetration	mm/10	290
RoHS Conformity	2015 / 863 / EU	Yes
THERMAL		
Thermal Conductivity	W/mK	5.5
Operating Temperature Range	°C	- 40 to + 150
ELECTRICAL		
Dielectric Strength	kV / mm	10
Volume Resistance	0hm - cm	1.0 x 10 ¹³

All data without warranty and subject to change. Please contact us for further data and information.



VORES PRODUKTSORTIMENT INKLUDERER:













VI FØRER PRODUKTER INDENFOR KATEGORIERNE:



AUTOMATIK



HVAC & BYGNINGS-AUTOMATIK



ELVARME



