

SuperPlanar™ Bridge Rectifiers

TDF30J--TDF30K

Features

- Planar passivated chips
- Ultra low leakage reverse current
- High temperature performance
- High surge current capability
- RoHS Compliant



Mechanical Data

- Low profile saves space on printed circuit boards
- Molding compound, UL flammability classification rating 94V-0
- Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102
- Polarity: As marked on body

Maximum Ratings (@T_A = 25°C unless otherwise specified)

Characteristic		Symbol	TDF30J	TDF30K	Units
Peak repetitive reverse voltage		V _{RRM}	600	800	V
RMS reverse voltage		V _{RMS}	420	560	V
DC blocking voltage		V _{DC}	600	800	V
Maximum average forward output current		I _{F(AV)}	3.0		A
Peak forward surge current, 8.3ms single half-sine-wave	@T _J = 25°C	I _{FSM}	90		A
I ² t Rating for fusing (t=8.3ms)	@T _J = 25°C	I ² t	33.6		A ² s

Thermal Characteristics

Parameter	Symbol	TDF30J	TDF30K	Units
Typical thermal resistance per leg (Note 1)	R _{ΘJA}	50		°C /W
	R _{ΘJC}	10		
Operating junction temperature range	T _J	- 55 ---- + 150		°C
Storage temperature range	T _{STG}	- 55 ---- + 150		°C

Note:

1. Device mounted on PCB with 10 mm x 20 mm x 0.1mm copper pad areas

SuperPlanar™ Bridge Rectifiers**TDF30J--TDF30K****Electrical Characteristics** (@T_A = 25°C unless otherwise specified)

Parameter	Symbol	Test conditions		Typ.	Max.	Units
Maximum instantaneous forward voltage	V _F	I _F =1.5A Per Diode		0.92	0.95	V
		I _F =3.0A Per Diode		0.95	1.0	
Maximum Reverse current	I _R	Rated V _R , Per Diode	@T _A =25°C	0.1	1.0	μ A
			@T _A =150°C	20	80	

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Ratings and Characteristic Curves ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Fig.1-Forward Current Derating Curve

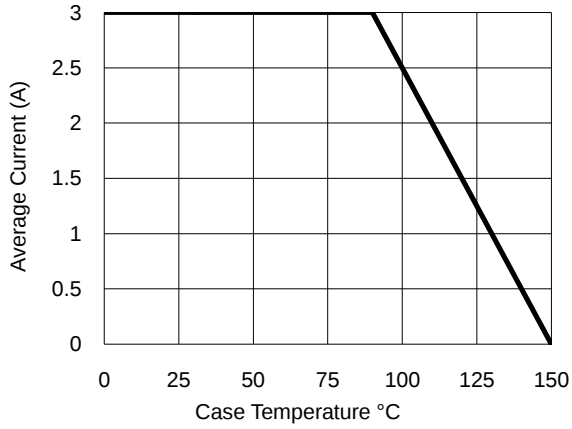


Fig.2- Surge Current Derating Curve

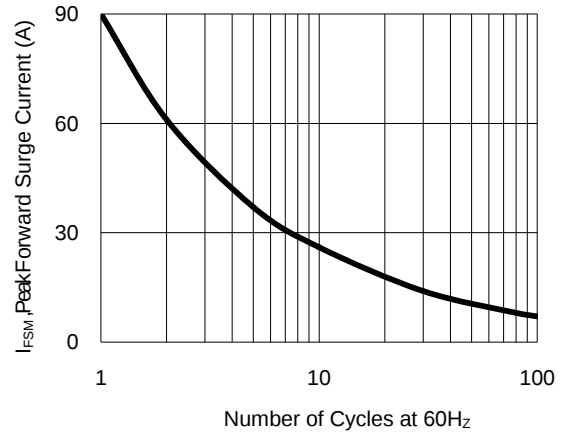


Fig.3- Typical Forward Voltage Characteristic

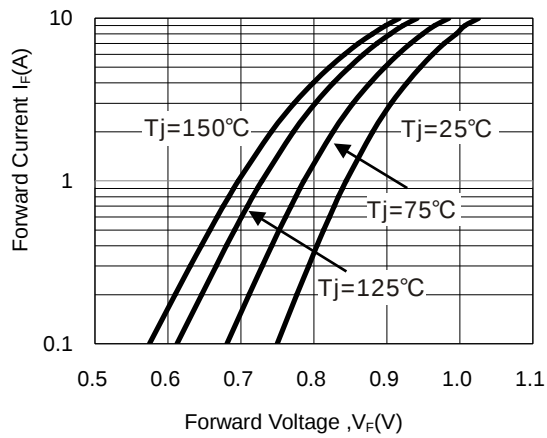
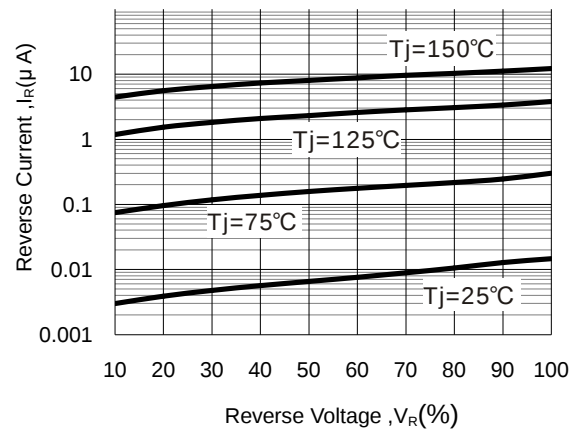


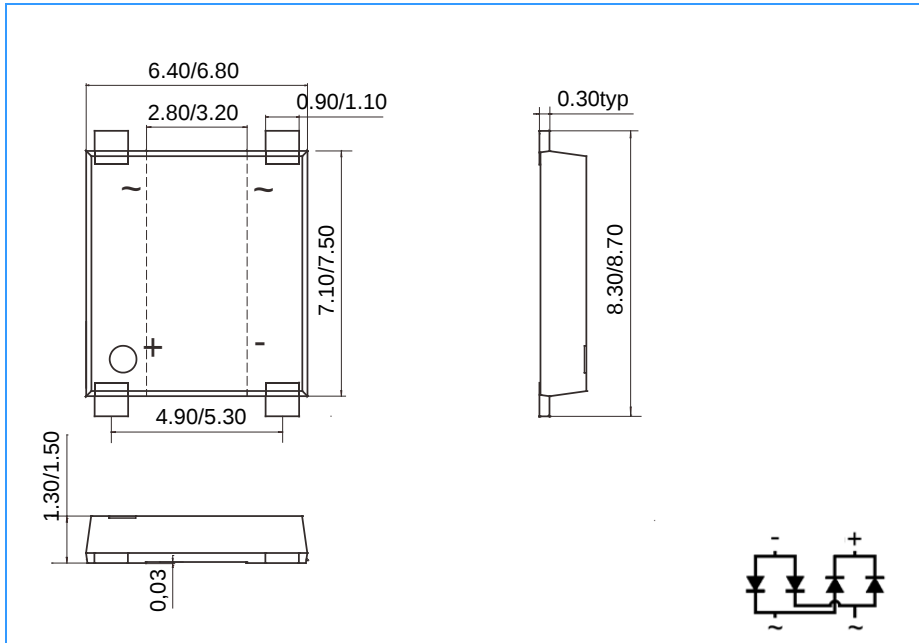
Fig.4- Typical Reverse Characteristic



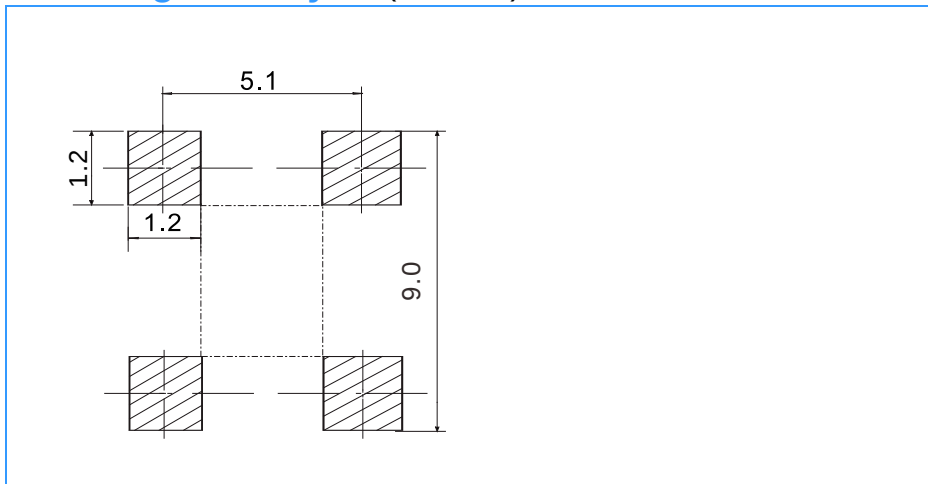
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Package Outline Dimensions(unit:mm)



Mounting Pad Layout(unit:mm)



Ordering Information

Part No.	Marking	Package	Shipping
TDF30J	TDF30J	TDF	3000 /Tape&Reel
TDF30K	TDF30K	TDF	3000 /Tape&Reel