

Silicon Bridge Rectifiers

TDF40J - TDF40M

Features

- Glass passivated junction
- High surge current capability
- Saves space on printed circuit boards
- High soldering temperature guaranteed: 260°C @ 10s
- RoHS compliant with Halogen-free



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)

Parameter	Symbol	TDF40J	TDF40K	TDF40M	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	600	800	1000	V
RMS Reverse Voltage	V _{RMS}	420	560	700	V
DC Blocking Voltage	V _{DC}	600	800	1000	V
Average Forward Output Current *1*2	I _{F_AV}	4.0			A
Peak Forward Surge Current, 8.3ms Single Half-Sine-wave	I _{FSM}	120			A
I ² t Rating for fusing	I ² t	59			A ² s

Note *1: Device mounted on 15mmx12mmx1.6mm AL Pad attached on 100mmx75mmx27mm Fin heatsink. Thermal resistance test performed in accordance with JESD-51.

*2: Perform static test after the temperature of oven is steady 20 minutes

Thermal Characteristics

Parameter	Symbol	TDF40J	TDF40K	TDF40M	Unit
Typical Thermal Resistance *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

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Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition		Typ.	Max.	Unit
Instantaneous Forward Voltage	V_F	$I_F = 2.0\text{A}$ Per Diode		-	1.0	V
Reverse Current	I_R	Rated V_R	@ $T_A = 25^\circ\text{C}$	-	5	μA
			@ $T_A = 125^\circ\text{C}$	-	200	

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

Fig.1 Forward Current Derating Curve

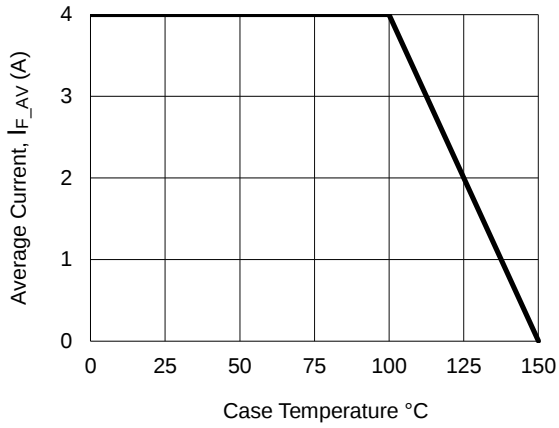


Fig.2 Surge Current Derating Curve

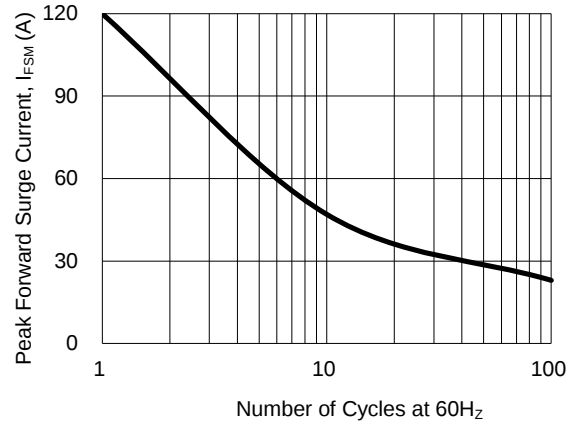


Fig.3 Typical Forward Voltage Characteristics

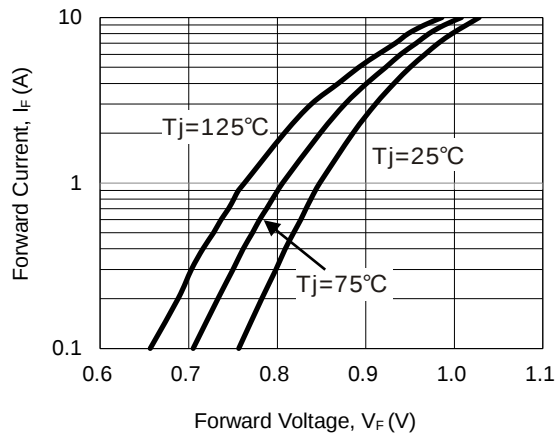
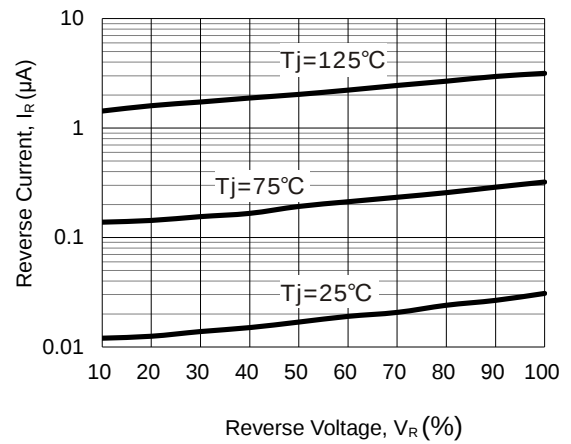


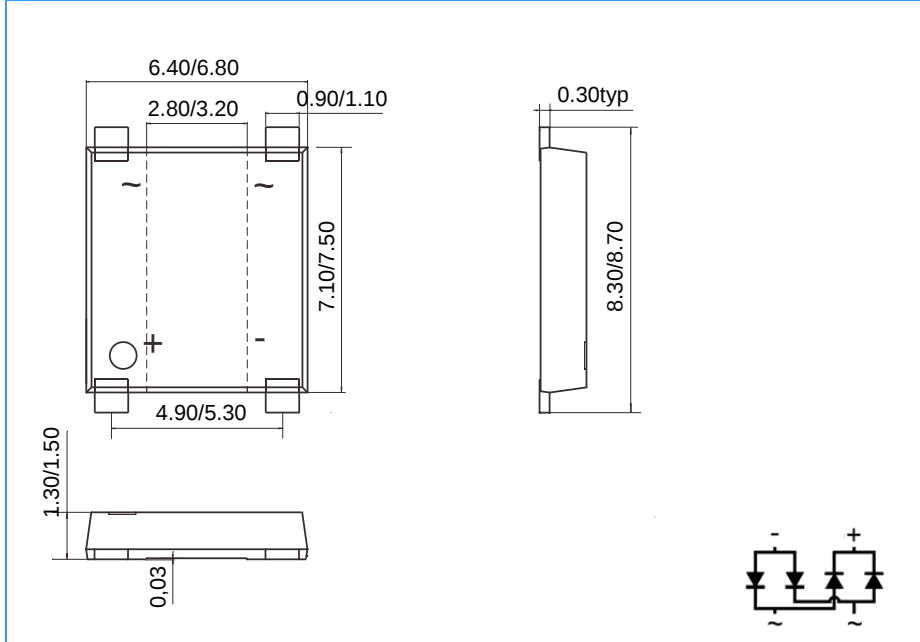
Fig.4 Typical Reverse Characteristics



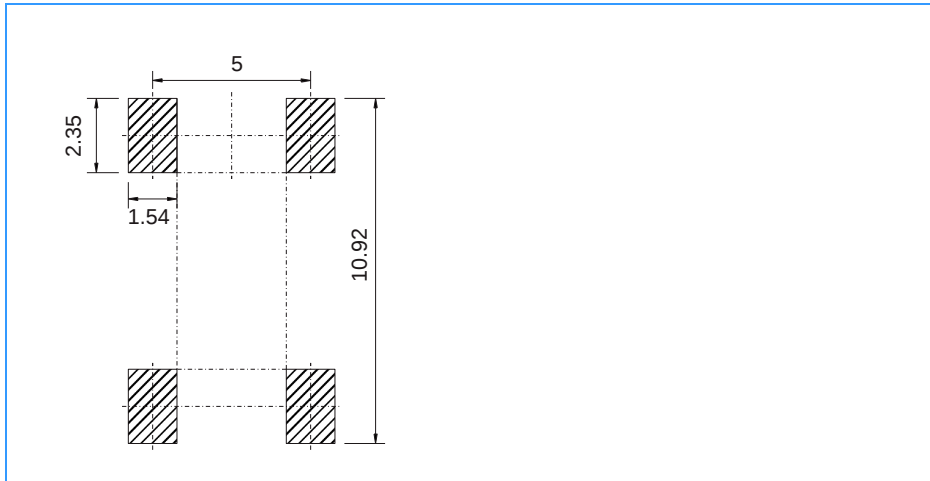
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Package Outline Dimensions (unit: mm)



Mounting Pad Layout (unit: mm)



Ordering Information

Part Number	Marking	Package	Shipping Quantity
TDF40J	TDF40J	TDF	3000 / Tape & Reel
TDF40K	TDF40K	TDF	3000 / Tape & Reel
TDF40M	TDF40M	TDF	3000 / Tape & Reel