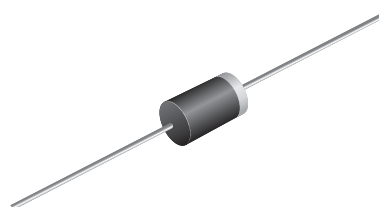


Miniature Glass Passivated Junction Plastic Rectifier

Major Ratings and Characteristics

$I_{F(AV)}$	1.0 A
V_{RRM}	50 V to 1000 V
I_{FSM}	40 A
V_F	1.1 V
I_R	5.0 μ A
T_j max.	150 °C



Case Style MPG06

Features

- Glass passivated chip junction
- Low forward voltage drop
- Low leakage current, typical I_R less than 0.1 μ A
- High forward surge capability
- Solder Dip 260 °C, 40 seconds



Mechanical Data

Case: MPG06, molded epoxy over passivated chip
Epoxy meets UL-94V-0 Flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D

E3 suffix for commercial grade, HE3 suffix for high reliability grade (AEC Q101 qualified)

Polarity: Color band denotes cathode end

Typical Applications

For use in general purpose rectification of power supplies, inverters, converters and freewheeling diodes application

Maximum Ratings

($T_A = 25$ °C unless otherwise noted)

Parameter	Symbol	MPG06A	MPG06B	MPG06D	MPG06G	MPG06J	MPG06K	MPG06M	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_A = 25$ °C	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	40							A
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150							°C

Electrical Characteristics

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

Parameter	Test condition	Symbol	MPG06A	MPG06B	MPG06D	MPG06G	MPG06J	MPG06K	MPG06M	Unit
Maximum instantaneous forward voltage	at 1.0 A	V_F	1.1							V
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25\text{ }^{\circ}\text{C}$ $T_A = 125\text{ }^{\circ}\text{C}$	I_R	5.0 50							μA
Typical reverse recovery time	$I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $I_{rr} = 0.25\text{ A}$	t_{rr}	0.6							μs
Typical junction capacitance	at 4.0 V, 1 MHz	C_J	10							pF

Thermal Characteristics

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

Parameter	Symbol	MPG06A	MPG06B	MPG06D	MPG06G	MPG06J	MPG06K	MPG06M	Unit
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$	67							$^{\circ}\text{C/W}$
	$R_{\theta JL}$	30							

Notes:

(1) Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5 mm) lead length, P.C.B. mounted with 0.22 x 0.22" (5.5 x 5.5 mm) copper pads

Ratings and Characteristics Curves

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

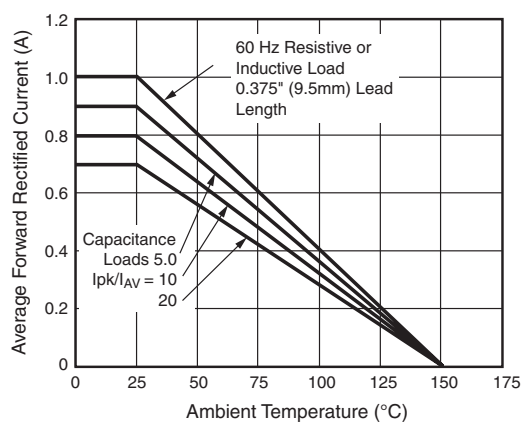


Figure 1. Forward Current Derating Curve

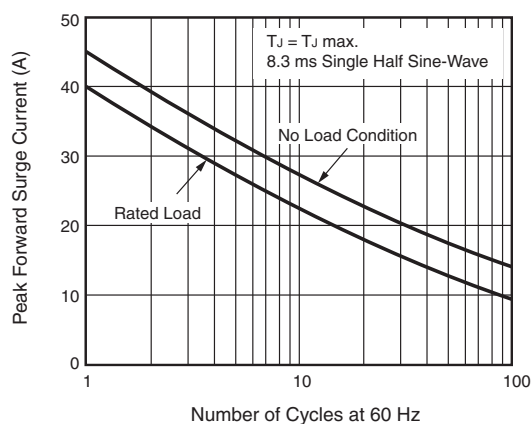


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

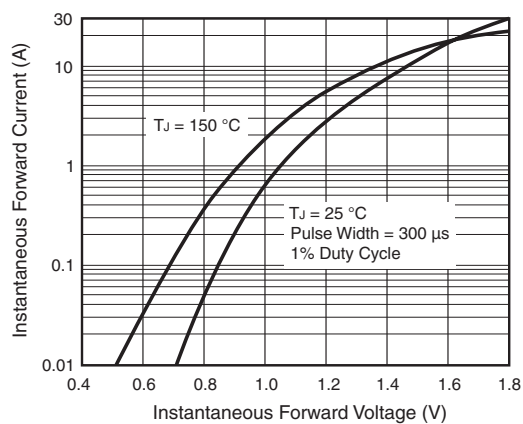


Figure 3. Typical Instantaneous Forward Characteristics

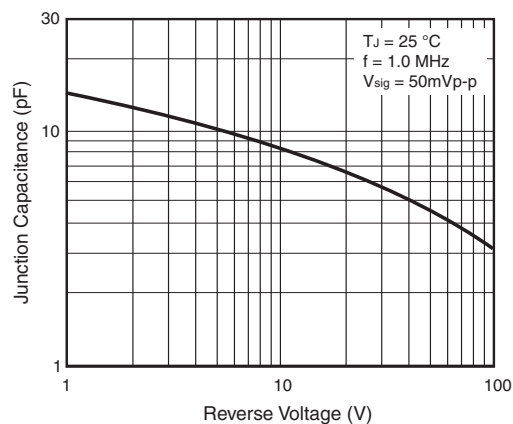


Figure 5. Typical Junction Capacitance

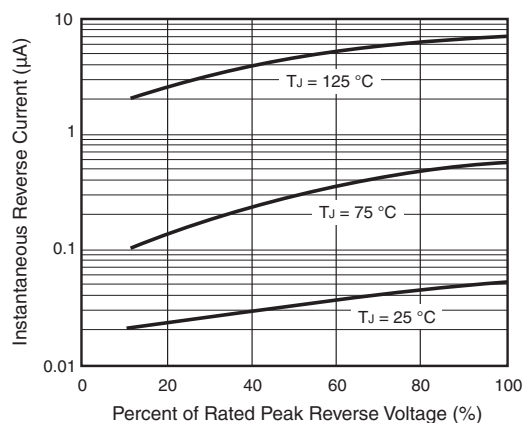


Figure 4. Typical Reverse Characteristics

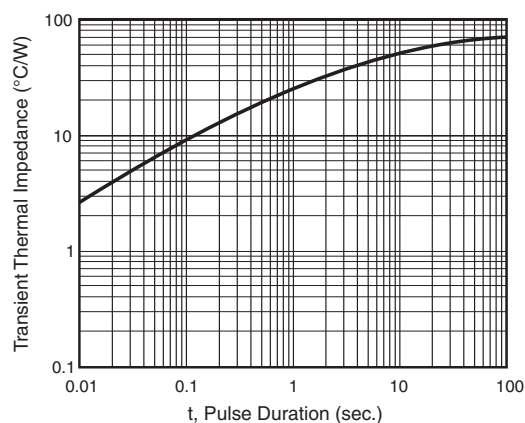
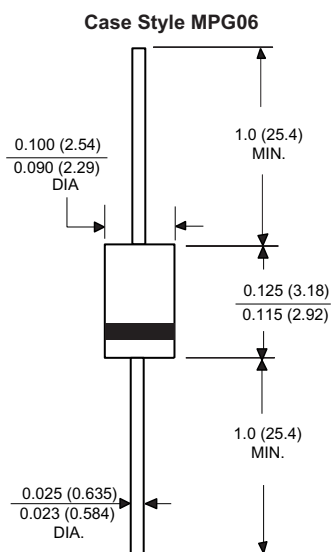


Figure 6. Typical Transient Thermal Impedance

Package outline dimensions in inches (millimeters)





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