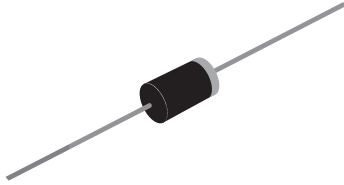


Miniature Glass Passivated Junction Plastic Rectifier



Case Style MPG06

FEATURES

- Glass passivated chip junction
- Low forward voltage drop
- Low leakage current, typical I_R less than $0.1 \mu A$
- High forward surge capability
- Solder dip $260^\circ C$, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



RoHS
COMPLIANT

TYPICAL APPLICATIONS

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

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-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test, HE3 suffix for high reliability grade (AEC Q101 qualified), meets JESD 201 class 2 whisker test

Polarity: Color band denotes cathode end

PRIMARY 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	$5.0 \mu A$
T_J max.	$150^\circ C$

MAXIMUM RATINGS ($T_A = 25^\circ C$ 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 $T_A = 25^\circ C$	$I_{F(AV)}$	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							$^\circ C$

ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)											
PARAMETER	TEST CONDITIONS		SYMBOL	MPG06A	MPG06B	MPG06D	MPG06G	MPG06J	MPG06K	MPG06M	UNIT
Maximum instantaneous forward voltage	1.0 A		V _F				1.1				V
Maximum DC reverse current at rated DC blocking voltage		T _A = 25 °C T _A = 125 °C	I _R				5.0 50				μA
Typical reverse recovery time	I _F = 0.5 A, I _R = 1.0 A, I _{rr} = 0.25 A		t _{rr}				0.6				μs
Typical junction capacitance	4.0 V, 1 MHz		C _J				10				pF

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)										
PARAMETER	SYMBOL	MPG06A	MPG06B	MPG06D	MPG06G	MPG06J	MPG06K	MPG06M	UNIT	
Typical thermal resistance ⁽¹⁾	R _{θJA} R _{θJL}				67 30				°C/W	

Note:

(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

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
MPG06J-E3/54	0.202	54	5500	13" diameter paper tape and reel
MPG06J-E3/73	0.202	73	3000	Ammo pack packaging
MPG06JHE3/54 ⁽¹⁾	0.202	54	5500	13" diameter paper tape and reel
MPG06JHE3/73 ⁽¹⁾	0.202	73	3000	Ammo pack packaging

Note:

(1) Automotive grade AEC Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

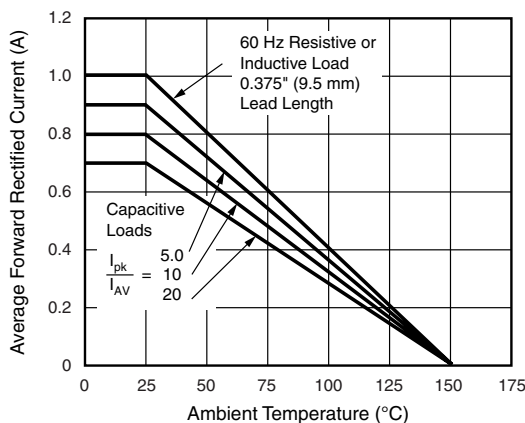


Figure 1. Forward Current Derating Curve

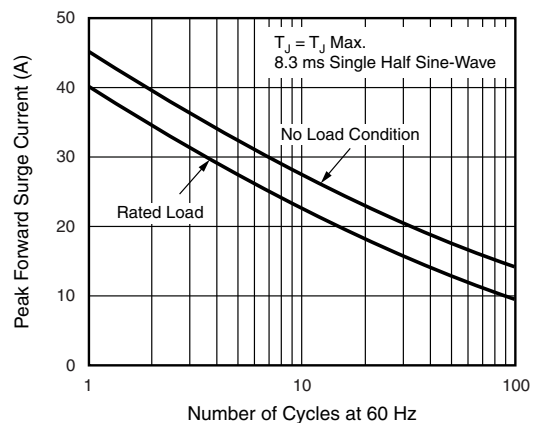


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

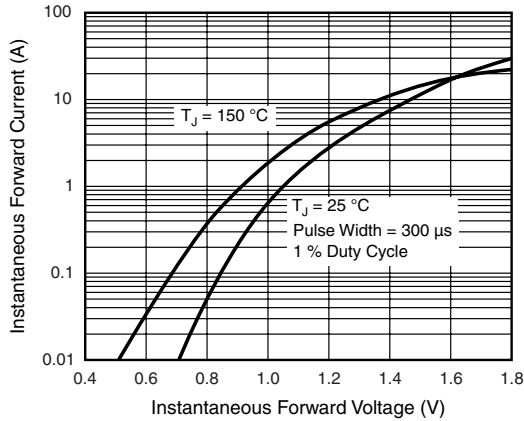


Figure 3. Typical Instantaneous Forward Characteristics

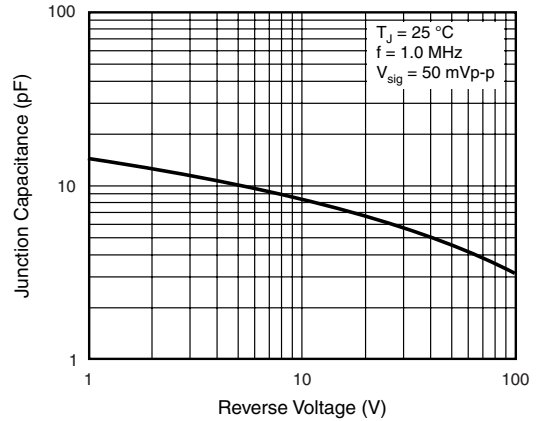


Figure 5. Typical Junction Capacitance

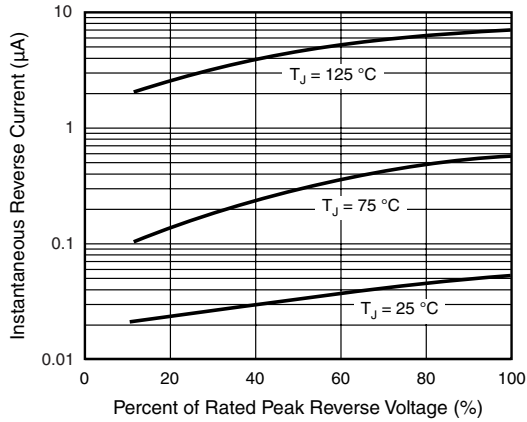


Figure 4. Typical Reverse Characteristics

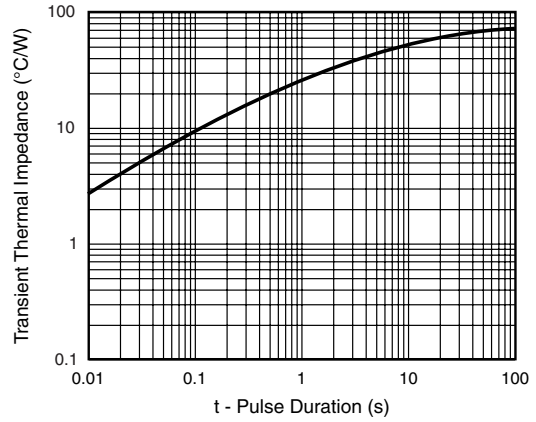
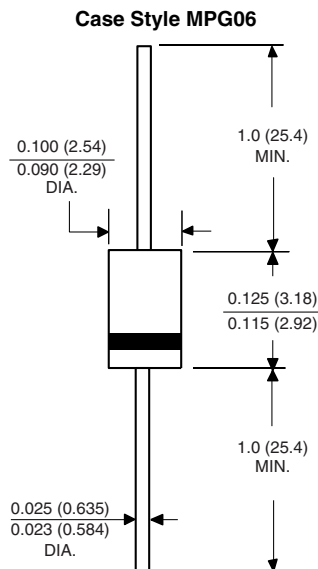


Figure 6. Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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