



MASK32~MASK310

Surface Mount Schottky Rectifiers

Features

- Low profile package
- Ideal for automated placement
- Ultrafast reverse recovery time
- Low power losses, high efficiency
- Low forward voltage drop
- High surge capability
- High temperature soldering:
260°C/10 seconds at terminals
- Component in accordance to
RoHS 2002/95/1 and WEEE 2002/96/EC



Mechanical Date

- **Case:** JEDEC MSMA molded plastic body over glass passivated chip
- **Terminals:** Solder plated, solderable per J-STD-002B and JESD22-B102D
- **Polarity:** Laser band denotes cathode end

Major Ratings and Characteristics

$I_{F(AV)}$	3.0 A
V_{RRM}	20 V to 100 V
I_{FSM}	75 A
V_F	0.50V,0.55V,0.70V,0.85V
$T_j \text{ max.}$	125 °C

Maximum Ratings & Thermal Characteristics

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

Items	Symbol	MASK 32	MASK 33	MASK 34	MASK 35	MASK 36	MASK 38	MASK 310	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	80	100	V
Maximum RMS voltage	V_{RMS}	14	21	28	35	42	56	70	V
Maximum DC blocking voltage	V_{DC}	20	30	40	50	60	80	100	V
Maximum average forward rectified current	$I_{F(AV)}$	3.0							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	75							A
Voltage rate of change (rated V_R)	dv/dt	10000							V/ μ s
Thermal resistance from junction to lead ⁽¹⁾	$R_{\theta JL}$	35							°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +125							°C

Note 1: Mounted on P.C.B. with 0.2 x 0.2" (5.0 x 5.0mm) copper pad areas.

Electrical Characteristics

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

Items	Test conditions	Symbol	MASK 32	MASK33~MASK34	MASK35~MASK36	MASK38~MASK310	UNIT	
Instantaneous forward voltage	$I_F=3.0A^{(2)}$	V_F	0.50	0.55	0.70	0.85	V	
Reverse current	$V_R=V_{DC}$ $T_A=25\text{ °C}$ $T_A=100\text{ °C}$	I_R	0.5				10	mA

Note 2: Pulse test:300 μ s pulse width,1% duty cycle.



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

Fig.1 Forward Current Derating Curve

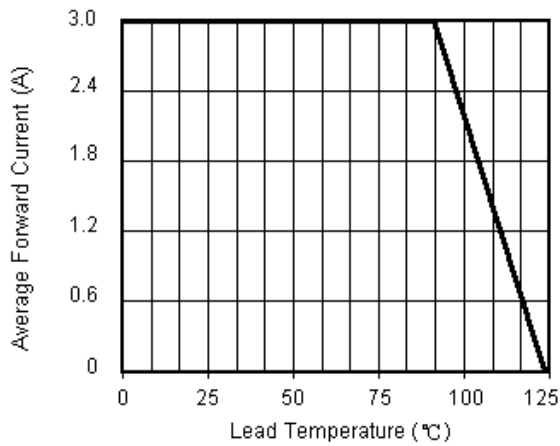


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

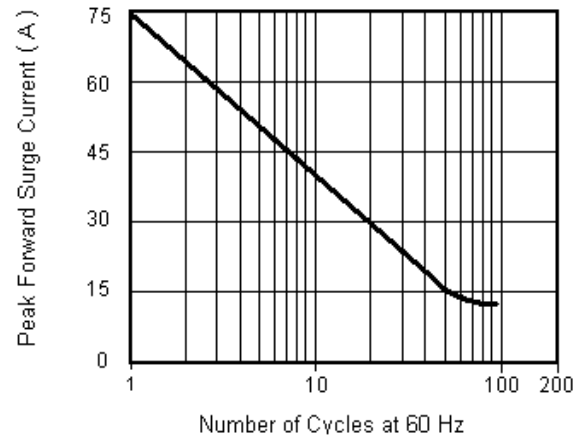


Fig.3 Typical Instantaneous Forward Characteristics

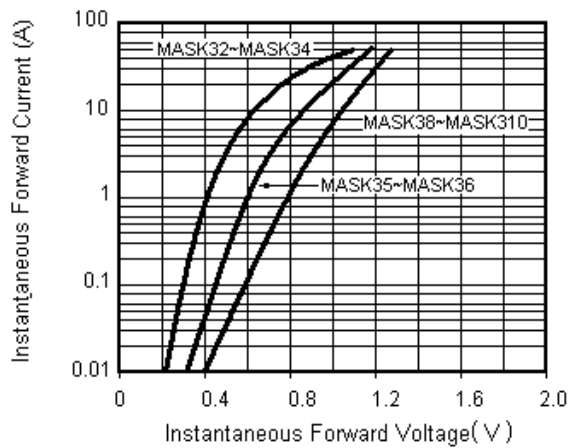
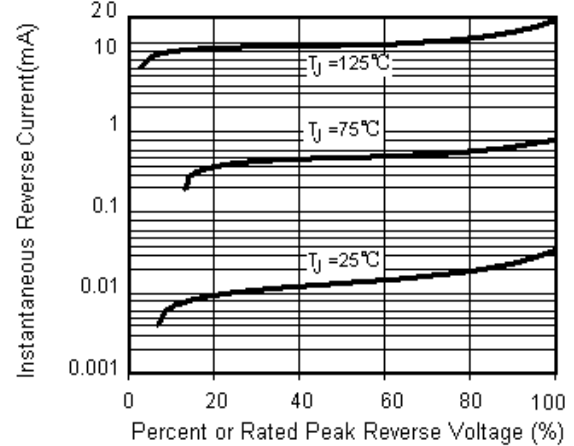


Fig.4 Typical Reverse Leakage Characteristics

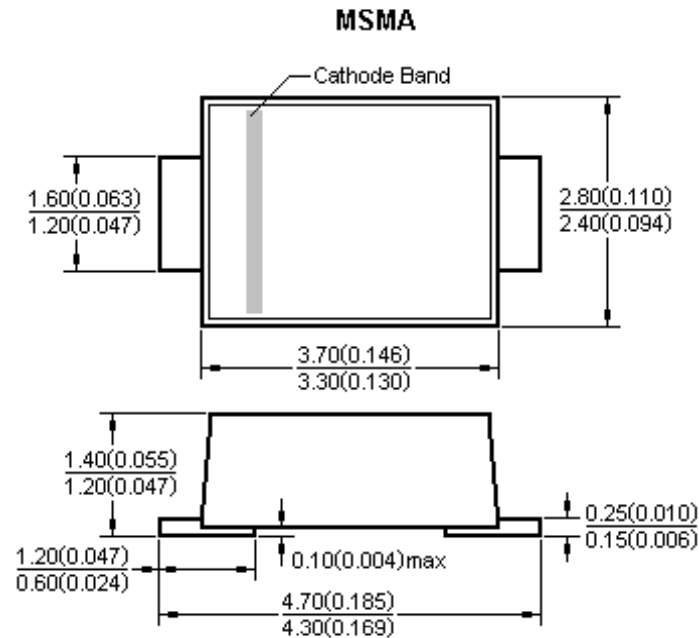




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Package Outline



Dimensions in millimeters and (inches)

Notice

- Product is intended for use in general electronics applications.
- Product should be worked less than the ratings; if exceeded, may cause permanent damage or introduce latent failure mechanisms.
- The absolute maximum ratings are rated values and must not be exceeded during operation. The following are the general derating methods you design a circuit with a device.
 $I_{F(AV)}$: We recommend that the worst case current be no greater than 80% .
 I_{FSM} : This rating specifies the non-repetitive peak current. This is only applied for an abnormal operation, which the general during the lifespan of the device.
 T_J : Derate this rating when using a device in order to ensure high reliability. We recommend that the device be used at a T_J of below 125°C.

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