

# 2KBP005M/3N253 - 2KBP10M/3N259

## Bridge Rectifiers

### Features

- Surge overload rating: 60 amperes peak.
- Reliable low cost construction utilizing molded plastic technique.
- UL certified, UL #E111753.



\* The nodules on the package may not be present on the actual parts.

### Absolute Maximum Ratings \* $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value							Units
		005M	01M	02M	04M	06M	08M	10M	
		253	254	255	256	257	258	259	
$V_{RRM}$	Maximum Repetitive Reverse Voltage	50	100	200	400	600	800	1000	V
$V_{RMS}$	Maximum RMS Bridge Input Voltage	35	70	140	280	420	560	700	V
$V_R$	DC Reverse Voltage (Rated $V_R$ )	50	100	200	400	600	800	1000	V
$I_{F(AV)}$	Average Rectified Forward Current, @ $T_A = 50^\circ\text{C}$	2.0							A
$I_{FSM}$	Non-Repetitive Peak Forward Surge Current 8.3ms Single Half-Sine-Wave	60							A
$T_{STG}$	Storage Temperature Range	-55 to +150							$^\circ\text{C}$
$T_J$	Junction Temperature	-55 to +150							$^\circ\text{C}$

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

### Thermal Characteristics

Symbol	Parameter	Value	Units
$P_D$	Power Dissipation	4.7	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient, * per leg	18	$^\circ\text{C/W}$

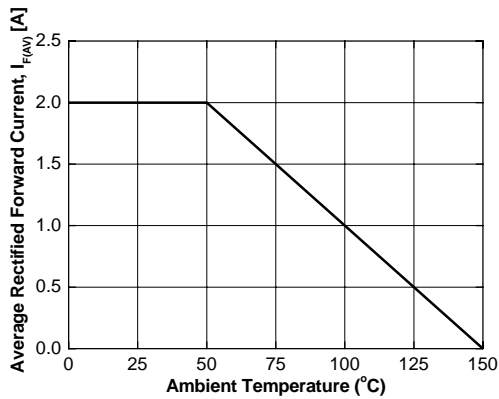
\* Device mounted on PCB with  $0.47 \times 0.47$ " ( $12 \times 12$ mm).

**Electrical Characteristics**  $T_a = 25^\circ\text{C}$  unless otherwise noted

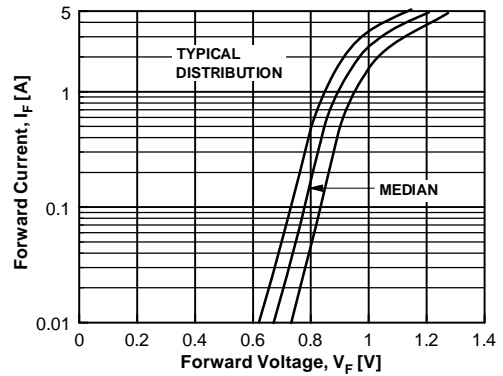
Symbol	Parameter	Value	Units	
$V_F$	Forward Voltage, per element @ 3.14A	1.1	V	
$I_R$	Reverse Current, per element @ Rated $V_R$	$T_A = 25^\circ\text{C}$	5.0	$\mu\text{A}$
		$T_A = 125^\circ\text{C}$	500	$\mu\text{A}$
	$I^2t$ Rating for Fusing $t < 8.35\text{ms}$	15	$\text{A}^2\text{s}$	
$C_T$	Total Capacitance, per leg $V_R = 4.0\text{ V}, f = 1.0\text{ MHz}$	25	pF	

**Typical Performance Characteristics**

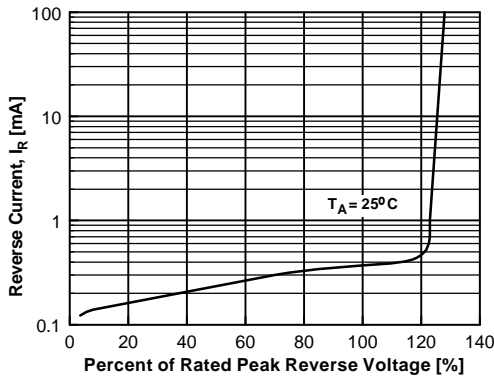
**Figure 1. Forward Curve Derating Curve**



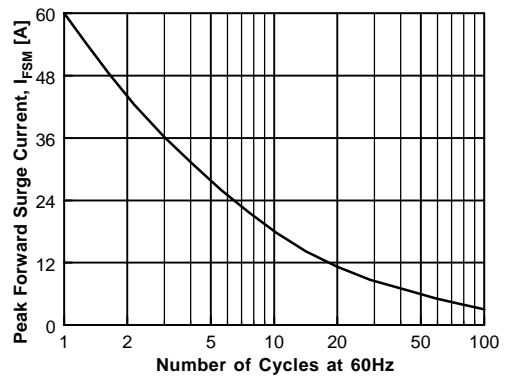
**Figure 2. Forward Voltage Characteristics**



**Figure 3. Reverse Current vs Reverse Voltage**



**Figure 4. Non-Repetitive Surge Current**





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