

## Excellent Integrated System Limited

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[Fairchild Semiconductor](#)  
[3N246](#)

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## KBP005M/3N246 - KBP10M/3N252

### Features

- Surge overload rating: 50 amperes peak.
- Reliable low cost construction utilizing molded plastic technique.
- UL certified, UL #E111753.



### Bridge Rectifiers

#### Absolute Maximum Ratings\*

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

Symbol	Parameter	Value							Units
		005M	01M	02M	04M	06M	08M	10M	
		246	247	248	249	250	251	252	
$V_{RRM}$	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, @ $T_A = 50^\circ\text{C}$	1.5							A
$I_{FSM}$	Non-repetitive Peak Forward Surge Current	50							A
$T_{stg}$	Storage Temperature Range	-55 to +165							$^\circ\text{C}$
$T_J$	Operating Junction Temperature	-55 to +165							$^\circ\text{C}$

\*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	3.5	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient,* per leg	40	$^\circ\text{C}/\text{W}$

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

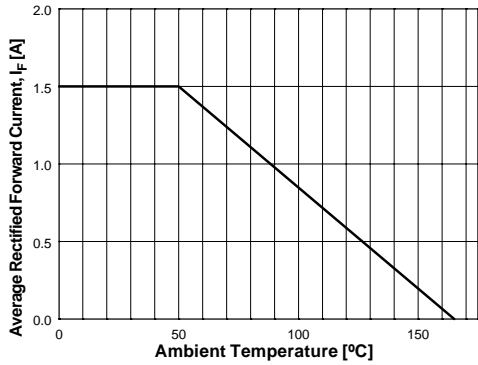
### Electrical Characteristics

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

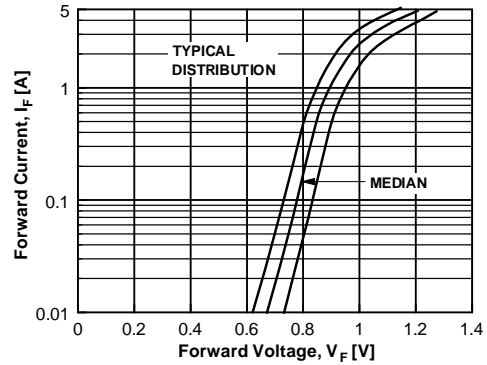
Symbol	Parameter	Device	Units	
$V_F$	Forward Voltage, per bridge @ 1.0 A	1.0	V	
		@ 3.14 A	1.3	V
$I_R$	Reverse Current, total bridge @ rated $V_R$	$T_A = 25^\circ\text{C}$	5.0	$\mu\text{A}$
		$T_A = 100^\circ\text{C}$	500	$\mu\text{A}$
		$I^2t$ rating for fusing $t < 8.35$ ms	10	$\text{A}^2\text{s}$
$C_T$	Total Capacitance, per leg $V_R = 4.0$ V, $f = 1.0$ MHz	15	pF	

**Bridge Rectifiers**  
(continued)

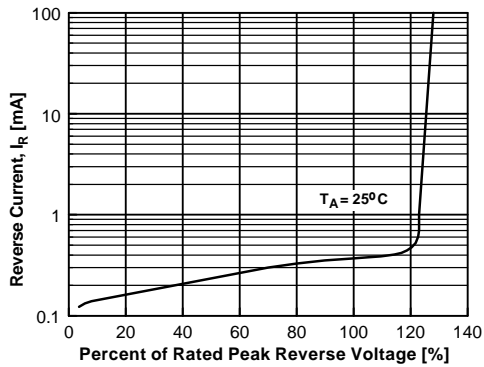
**Typical Characteristics**



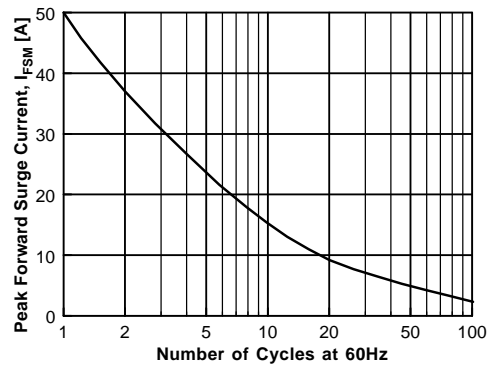
**Figure 1. Forward Current Derating Curve**



**Figure 2. Forward Voltage Characteristics**



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



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

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