



Micro Commercial Components

Micro Commercial Components  
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# FR2504

## 25 Amp Fast Recovery Rectifier

### Features

- Halogen free available upon request by adding suffix "-HF"
- High Current( $I_{F(AV)}=25A$ )
- Low  $V_F$  for Forward Conduction Losses
- Glass Passivated Junction
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1
- Marking:FR2504

### MAXIMUM RATINGS

- Mounting Torque: 5 in-lbs Maximum

Rating	Symbol	Value	Units
Peak Repetitive Reverse Voltage	$V_{RRM}$	400	V
Working Peak Reverse Voltage	$V_{RRM}$	400	V
DC Blocking Voltage	$V_{DC}$	400	V
Average Rectified Forward Current( $T_C=100^\circ C$ )	$I_{F(AV)}$	25	A
Non-Repetitive Peak Forward Surge Current	$I_{FSM}$	280	A
Operating Junction and Storage Temperature Range	$T_J, T_{stg}$	-50 to 150	$^\circ C$

### THERMAL CHARACTERISTICS

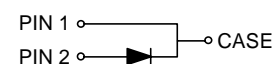
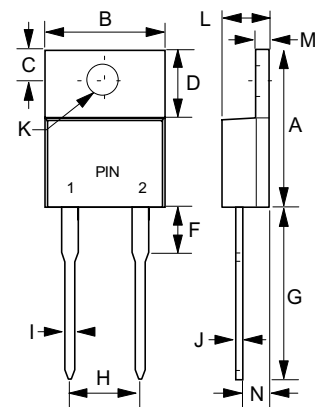
Rating	Symbol	Value	Units
Thermal Resistance Junction To Case	$R_{thJC}$	1	$^\circ C/watt$

### ELECTRICAL CHARACTERISTICS ( $T_J = 25^\circ C$ unless otherwise noted)

Parameter	Symbol	Conditions	Typical	Max	Units
Forward voltage(Note 2)	$V_F$	$I_F=25A$	1.17	1.3	V
		$I_F=50A$	1.35	1.5	
Reverse Leakage Current	$I_R$	$V_R=400V$	--	10	$\mu A$
Reverse Recovery Time	$T_{rr}$	$I_F=0.5A, I_R=1.0A$ $I_{RR}=0.25A$	110	250	ns

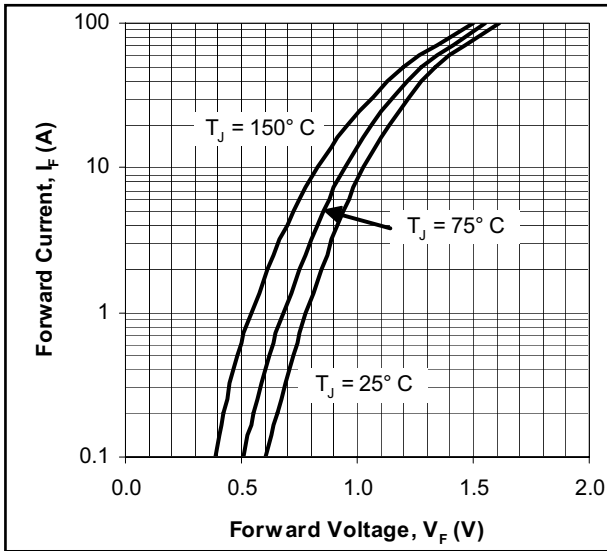
Notes: 1. High Temperature Solder Exemption Applied, see EU Directive Annex 7.  
2. Short duration pulse to minimize self-heating

### TO-220AC

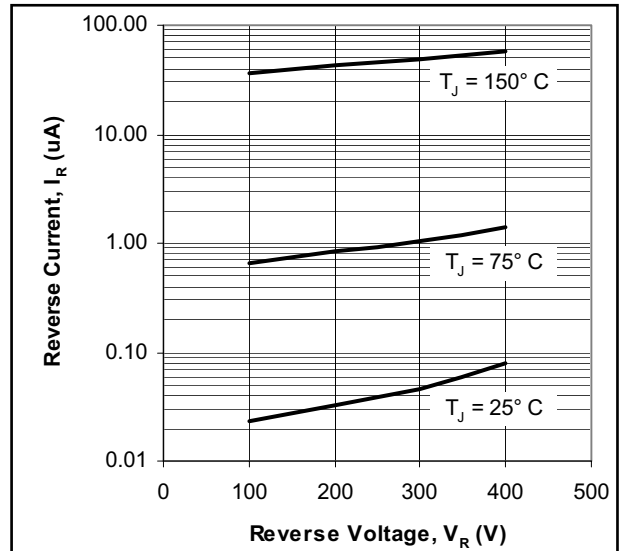


DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.560	.625	14.22	15.88	
B	.380	.420	9.65	10.67	
C	.100	.135	2.54	3.43	
D	.230	.270	5.84	6.86	
F	-----	.250	-----	6.35	
G	.500	.580	12.70	14.73	
H	.190	.210	4.83	5.33	
I	.020	.045	0.51	1.14	
J	.012	.025	0.30	0.64	
K	.139	.161	3.53	4.09	∅
L	.140	.190	3.56	4.83	
M	.045	.055	1.14	1.40	
N	.080	.115	2.03	2.92	

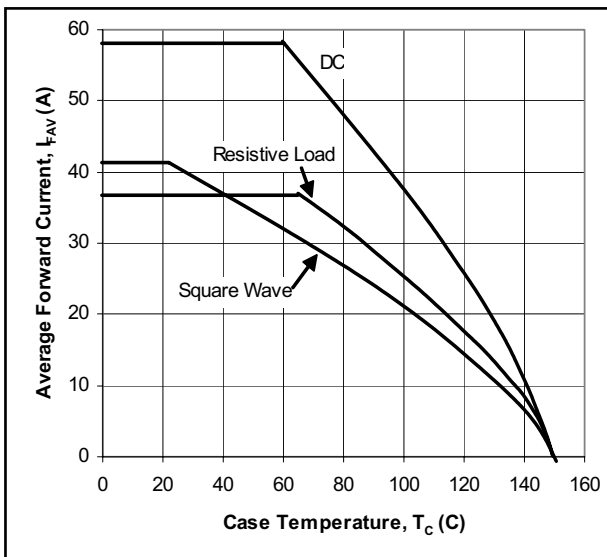
**TYPICAL CHARACTERISTICS (T = 25°C unless otherwise noted)**



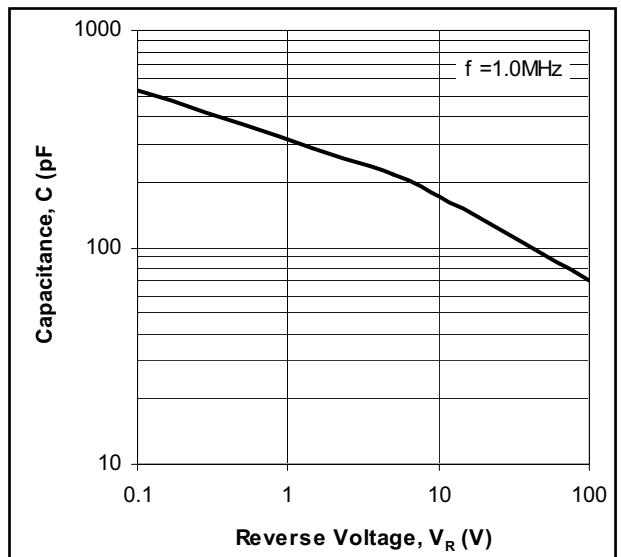
**Figure 1. Typical Forward Characteristics**



**Figure 2. Typical Reverse Characteristics**



**Figure 3. Current Derating Curves**



**Figure 4. Typical Capacitance**



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## Ordering Information

Device	Packing
(Part Number)-BP	Bulk;1Kpcs/Box

Note : Adding "-HF" suffix for halogen free, eg. Part Number-BP-HF

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