

## Features

- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix Designates Compliant. See Ordering Information)
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- High Frequency Operation
- High Surge Forward Current Capability
- Epoxy Meets UL 94 V-0 Flammability Rating
- Planar Structure Die and Soft Recovery Characteristics

## Maximum Ratings

- Operating Junction Temperature Range: -55°C to +175°C
- Storage Temperature Range: -55°C to +175°C
- Typical Thermal Resistance: 0.6°C/W Junction to Case

MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
MUR30120BH	MUR30120BH	1200V	840V	1200V

## Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Rectified Forward Current	$I_{F(AV)}$	30A	$T_C=130^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	300A	8.3ms, Half Sine Wave
Instantaneous Forward Voltage	$V_F$	1.9V(Typ) 2.4V(Max) 1.9V(Max)	$I_F=30\text{A}; T_J=25^\circ\text{C}$ $I_F=30\text{A}; T_J=25^\circ\text{C}$ $I_F=30\text{A}; T_J=150^\circ\text{C}$
Maximum Reverse Current At Rated DC Blocking Voltage	$I_R$	5uA 1mA	$T_J=25^\circ\text{C};$ $T_J=150^\circ\text{C}$
Typical Junction Capacitance	$C_J$	145pF	Measured at 1.0MHz, $V_R=4.0\text{V}$
Reverse Recovery Time	$t_{rr}$	55ns(Typ.) 75ns(Max.)	$I_F=0.5\text{A}, I_R=1.0\text{A}, I_{RR}=0.25\text{A}, T_J=25^\circ\text{C}$
		33ns(Typ.)	$I_F=1\text{A}, di_F/dt=-200\text{A}/\mu\text{s}, V_R=30\text{V}, T_J=25^\circ\text{C}$
		455ns(Typ.) 760ns(Typ.)	$T_J=25^\circ\text{C}$ $T_J=150^\circ\text{C}$
Peak recovery current	$I_{RRM}$	7.7A(Typ.) 16.7A(Typ.)	$T_J=25^\circ\text{C}$ $T_J=150^\circ\text{C}$
Reverse recovery charge	$Q_{rr}$	1770nC(Typ.) 6380nC(Typ.)	$T_J=25^\circ\text{C}$ $T_J=150^\circ\text{C}$

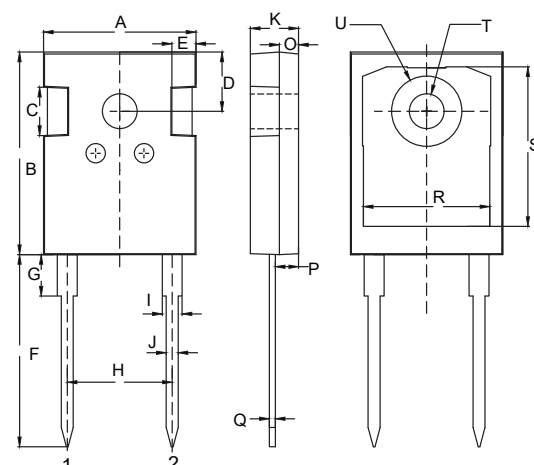
Note: 1. High Temperature Solder Exemptions Applied, See EU Directive Annex 7a.

## Internal Structure



# 30 Amp Ultra Fast Recovery Rectifier 1200 Volts

## TO-247AD



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.602	0.642	15.30	16.30	
B	0.799	0.839	20.30	21.30	
C	0.189	0.205	4.80	5.20	
D	0.242		6.15		BSC.
E	0.091	0.106	2.30	2.70	
F	0.768	0.807	19.50	20.50	
G	----	0.189	----	4.80	
H	0.428		10.88		BSC.
I	0.075	0.087	1.91	2.21	
J	0.044	0.054	1.11	1.36	
K	0.189	0.205	4.80	5.20	
O	0.073	0.085	1.85	2.15	
P	0.087	0.103	2.21	2.61	
Q	0.020	0.030	0.51	0.75	
R	0.512	0.535	13.00	13.60	
S	0.640	0.663	16.25	16.85	
T	0.134	0.150	3.40	3.80	Φ
U	----	0.287	----	7.30	Φ

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

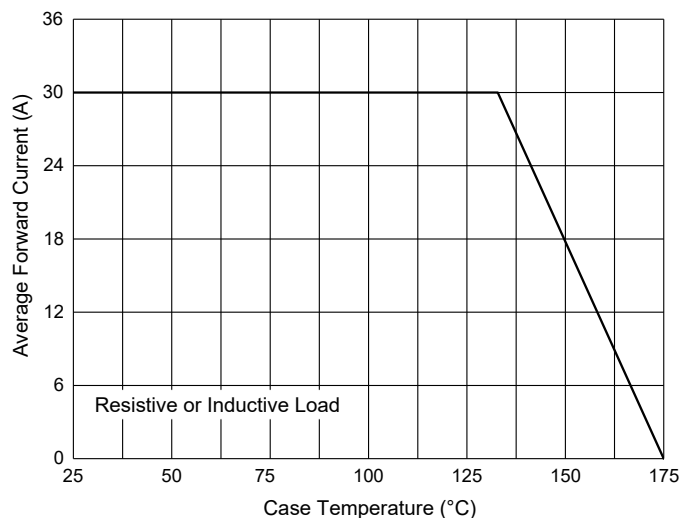


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

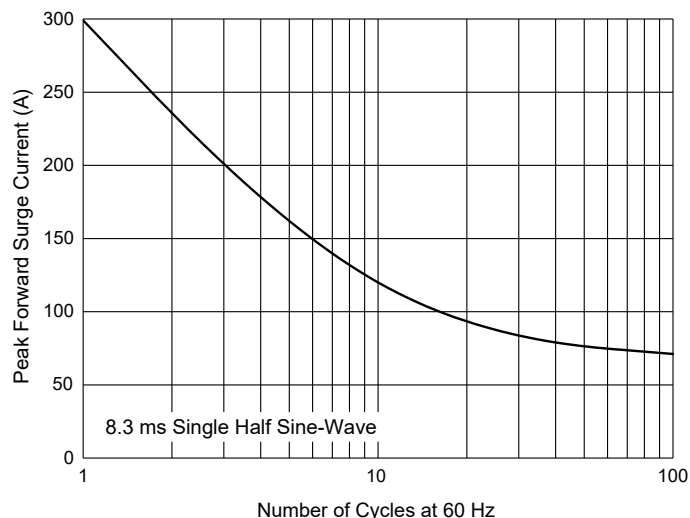


Fig. 3 - Typical Forward Characteristics

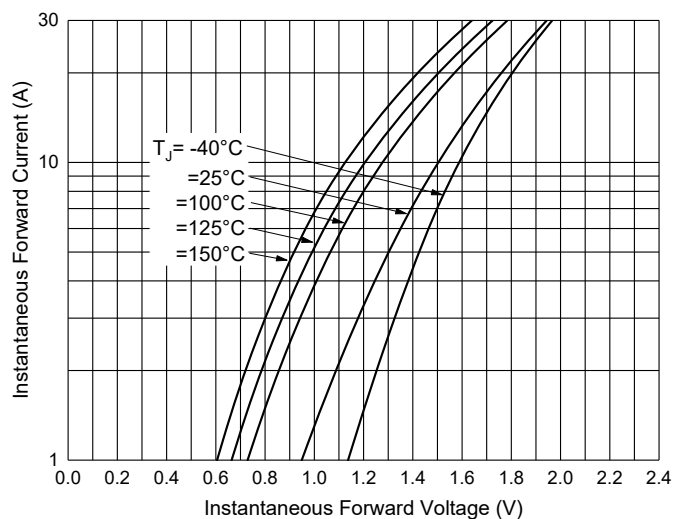


Fig. 4 - Typical Reverse Leakage Characteristics

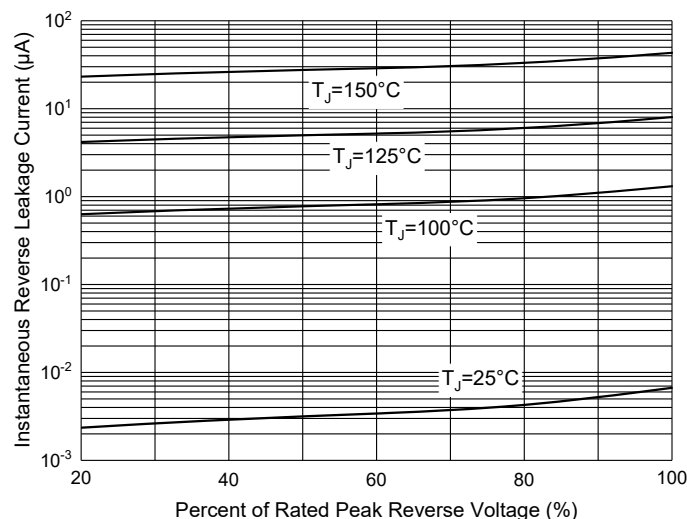


Fig. 5 - Capacitance Characteristics

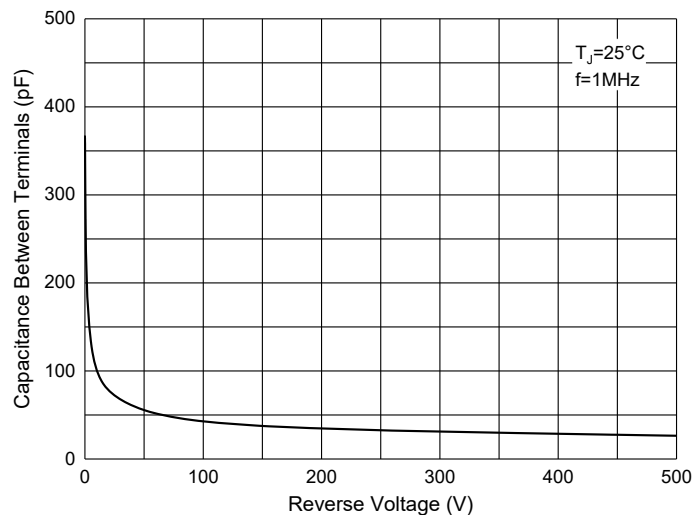
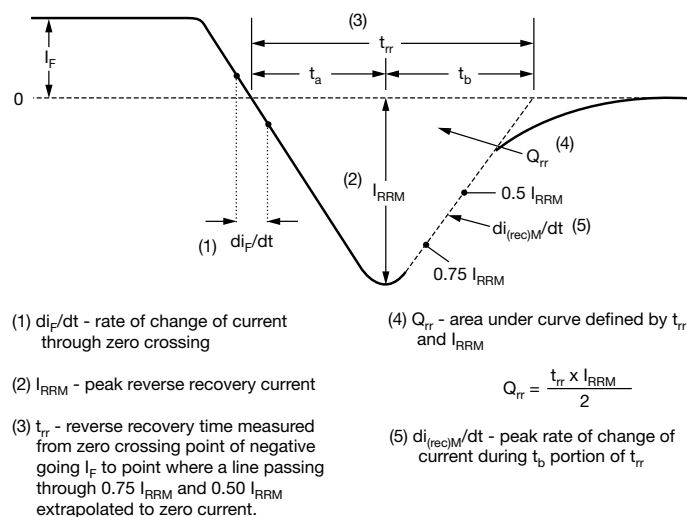


Fig. 6 - Reverse Recovery Waveform and Definitions



## Ordering Information

Device	Packing
Part Number-BP	Bulk:30pcs/Tube,360pcs/Box,1.8Kpcs/Carton

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-BP-HF

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