Micro Commercial Components

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

30 Amp Ultra Fast Recovery Rectifier 1200 Volts

Maximum Ratings

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

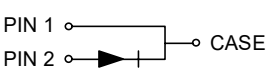
MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
MUR30120BH	MUR30120BH	1200V	840V	1200V

Electrical Characteristics @ 25°C Unless Otherwise Specified

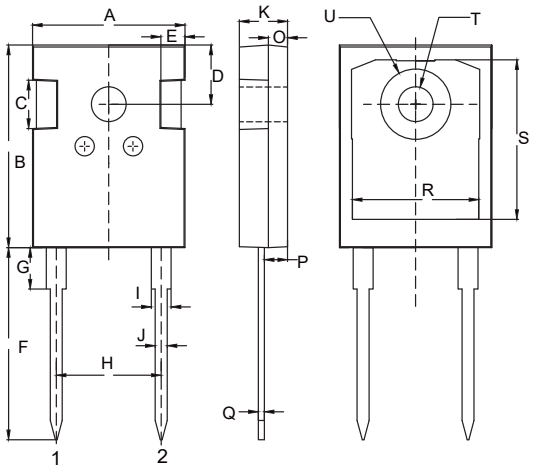
Average Rectified Forward Current	$I_{F(AV)}$	30A	T_C=130ºC	
Peak Forward Surge Current	I_{FSM}	300A	8.3ms,Half Sine Wave	
Instantaneous Forward Voltage	V_F	1.9V(Typ) 2.4V(Max) 1.9V(Max)	I_F=30A; T_J=25ºC I_F=30A; T_J=25ºC I_F=30A; T_J=150ºC	
Maximum Reverse Current At Rated DC Blocking Voltage	I_R	5uA 1mA	T_J=25ºC; T_J=150ºC	
Typical Junction Capacitance	C_J	145pF	Measured at 1.0MHz, V_R=4.0V	
Reverse Recovery Time	t_{rr}	55ns(Typ.) 75ns(Max.)	I_F=0.5A, I_R=1.0A, I_{RR}=0.25A, T_J=25ºC	
		33ns(Typ.)	I_F = 1A, di_F/dt=-200A/µs, V_R = 30V,T_J=25ºC	
		455ns(Typ.) 760ns(Typ.)	T_J=25ºC T_J=150ºC	I_F=30A di_F/dt=-200A/µs V_R=400 V
Peak recovery current	I_{RRM}	7.7A(Typ.) 16.7A(Typ.)	T_J=25ºC T_J=150ºC	
Reverse recovery charge	Q_{rr}	1770nC(Typ.) 6380nC(Typ.)	T_J=25ºC T_J=150ºC	

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

Internal Structure



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

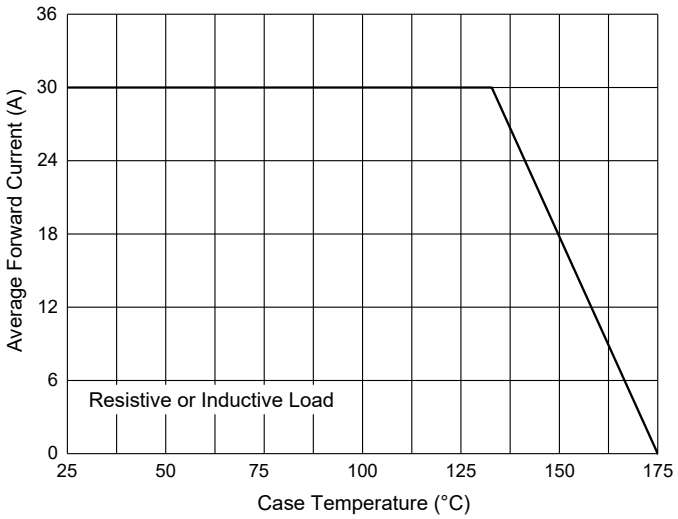


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

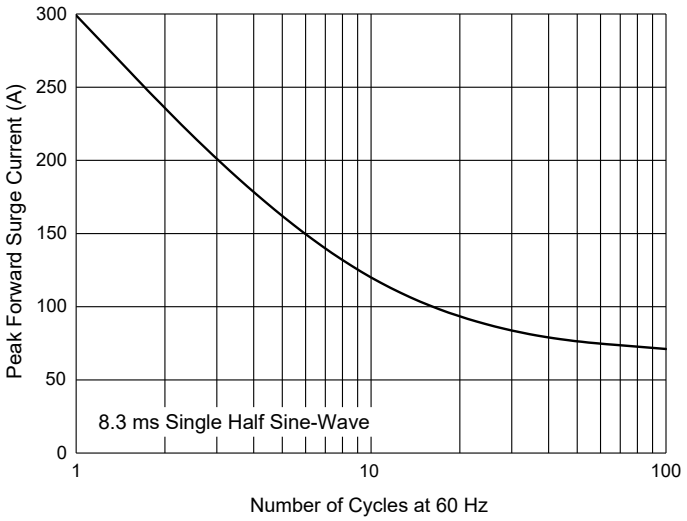


Fig. 3 - Typical Forward Characteristics

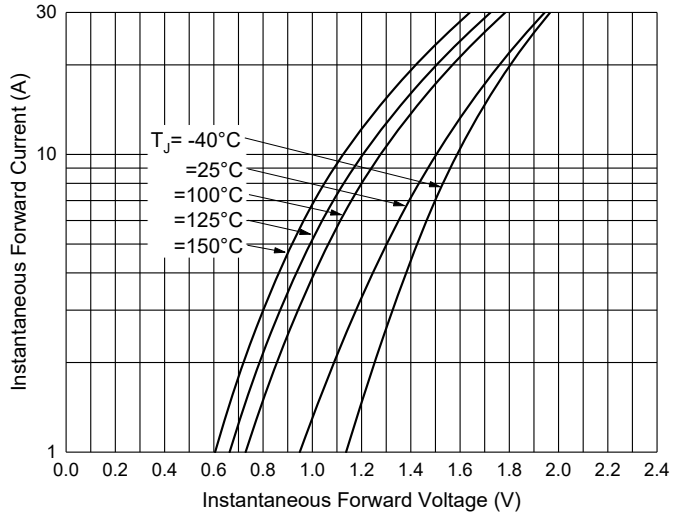


Fig. 4 - Typical Reverse Leakage Characteristics

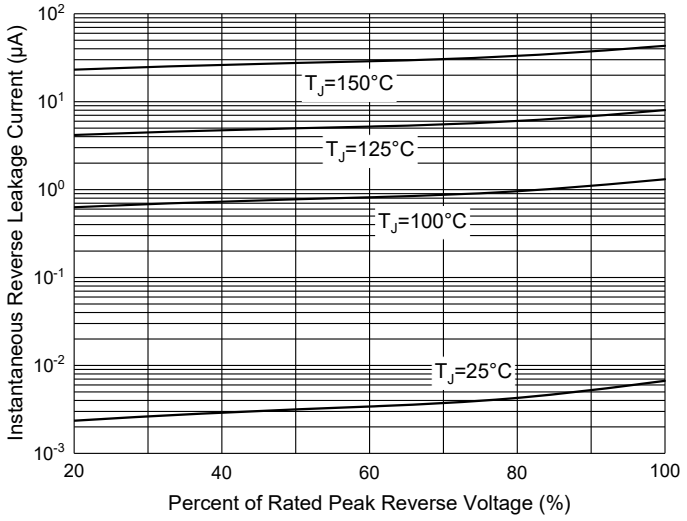


Fig. 5 - Capacitance Characteristics

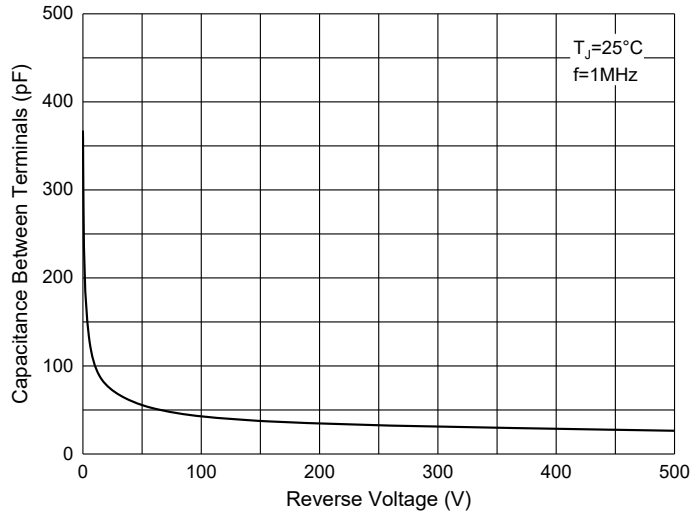
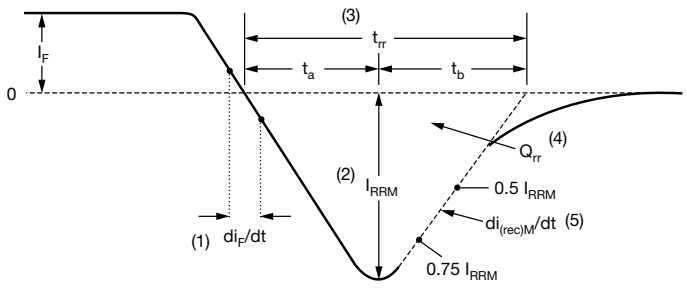


Fig. 6 - Reverse Recovery Waveform and Definitions



(1) di_F/dt - rate of change of current through zero crossing

(2) I_{RRM} - peak reverse recovery current

(3) t_{rr} - reverse recovery time measured from zero crossing point of negative going I_F to point where a line passing through 0.75 I_{RRM} and 0.50 I_{RRM} extrapolated to zero current.

(4) Q_{rr} - area under curve defined by t_{rr} and I_{RRM}

$$Q_{rr} = \frac{t_{rr} \times I_{RRM}}{2}$$

(5) $di_{(rec)M}/dt$ - peak rate of change of current during t_b portion of t_{rr}

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

*****IMPORTANT NOTICE*****

Micro Commercial Components Corp. reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . ***Micro Commercial Components Corp*** . does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold ***Micro Commercial Components Corp*** . and all the companies whose products are represented on our website, harmless against all damages. ***Micro Commercial Components Corp***. products are sold subject to the general terms and conditions of commercial sale, as published at
https://www.mccsemi.com/Home/TermsAndConditions.

*****LIFE SUPPORT*****

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

*****CUSTOMER AWARENESS*****

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources**. MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.