

**Features**

- High Surge Forward Current Capability
- Low Forward Voltage drop, Low Power Losses
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix Designates Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating

**Maximum Ratings**

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Typical Thermal Resistance : 4°C/W Junction to Case

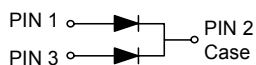
MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
MBRL40120FCT	MBRL40120FCT	120V	84V	120V

**Electrical Characteristics @ 25°C Unless Otherwise Specified**

Average Forward Current	$I_{F(AV)}$	40A	$T_C=70^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	320A	8.3ms, Half Sine
Current Squared Time	$I^2t$	425A <sup>2</sup> S	1ms ≤ t < 8.3ms, $T_J=25^\circ\text{C}$ ; Rating of Per Diode
Instantaneous Forward Voltage	$V_F$	0.85V(Max.) 0.79V(Typ.) 0.72V(Max.) 0.68V(Typ.)	$I_{FM}=20\text{A}; T_A=25^\circ\text{C}$ $I_{FM}=20\text{A}; T_A=25^\circ\text{C}$ $I_{FM}=20\text{A}; T_A=125^\circ\text{C}$ $I_{FM}=20\text{A}; T_A=125^\circ\text{C}$
Peak Reverse Current At Rated DC Blocking Voltage	$I_R$	0.1mA(Max.) 18µAV(Typ.) 40mA(Max.) 15mA(Typ.)	$T_A=25^\circ\text{C}$ $T_A=25^\circ\text{C}$ $T_A=125^\circ\text{C}$ $T_A=125^\circ\text{C}$
Typical Junction Capacitance	$C_J$	900pF	Measured at 1.0MHz, $V_R=4.0\text{V}$

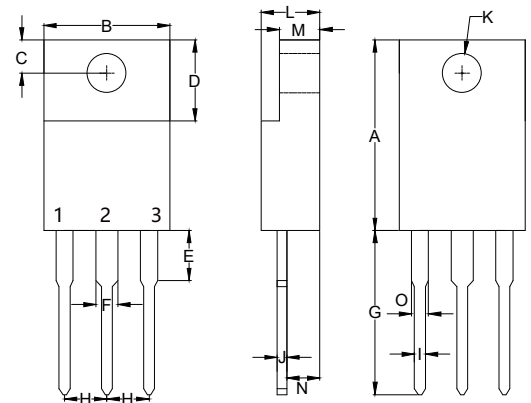
Note :1. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.

**Internal Structure**



**40 Amp  
Low VF Schottky  
Barrier Rectifier  
120 Volts**

**ITO-220AB**



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.567	0.642	14.40	16.30	
B	----	0.421	----	10.70	
C	0.085	0.128	2.15	3.25	
D	0.248	0.272	6.30	6.90	
E	----	0.177	----	4.50	
F	----	0.071	----	1.80	
G	0.500	0.539	12.70	14.20	
H	0.100		2.55		
I	----	0.035	----	0.90	
J	----	0.032	----	0.80	
K	0.102	0.150	2.60	3.80	Φ
L	----	0.201	----	5.10	
M	----	0.140	----	3.56	
N	0.083	0.126	2.10	3.20	
O	----	0.071	----	1.80	

**Curve Characteristics**

Fig. 1 - Forward Current Derating Curve

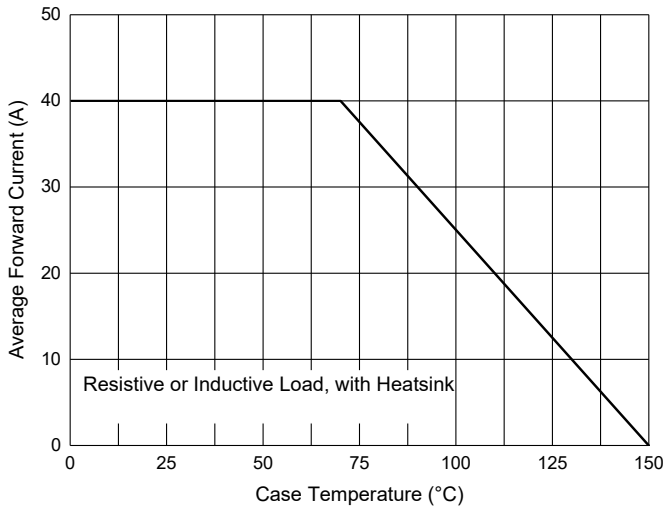


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

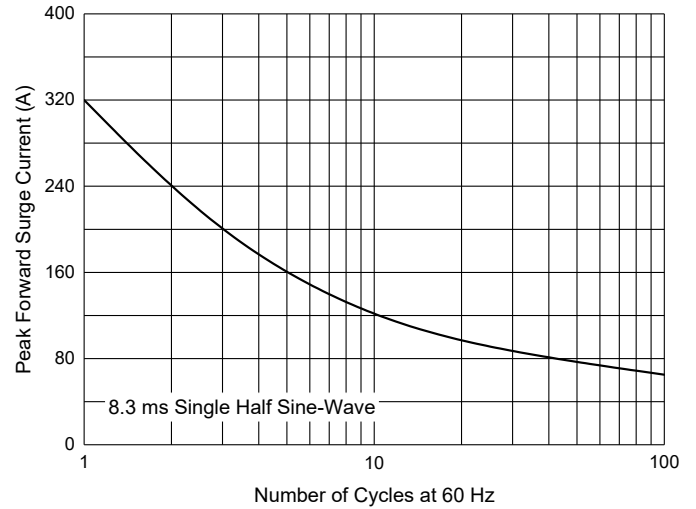


Fig. 3 - Typical Instantaneous Forward Characteristics

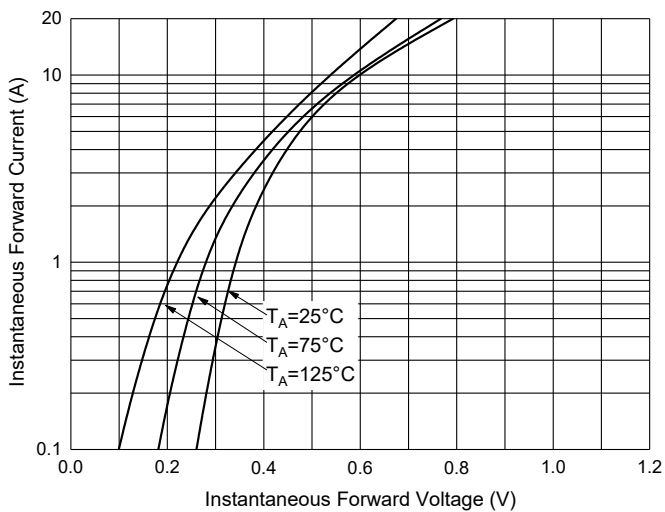
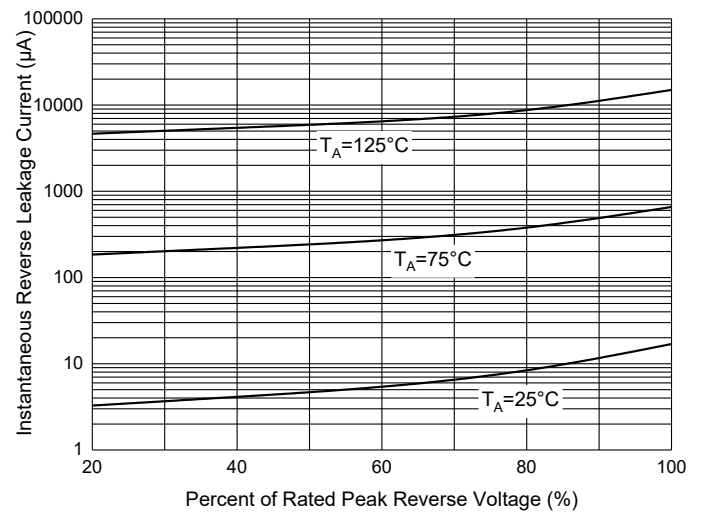


Fig. 2 - Typical Reverse Leakage Characteristics



## Ordering Information

Device	Packing
Part Number-BP	Bulk:50pcs/Tube,1Kpcs/Box,1Kpcs/Carton

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

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