

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
- Moisture Sensitivity Level 1

Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Maximum Thermal Resistance : 2°C/W Junction to Case

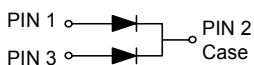
MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
MBRL40120CT	MBRL40120CT	120V	84V	120V

Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	40A	$T_C=85^\circ\text{C}$
Peak Forward Surge Current	I_{FSM}	320A	8.3ms, Half Sine
Current Squared Time	I^2t	425A ² 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, $V_R=4.0\text{V}$

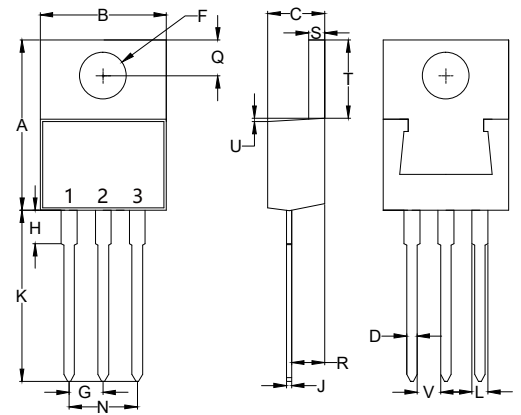
Note :1. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.

Internal Structure



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

TO-220AB



DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.560	0.625	14.22	15.88	
B	0.380	0.429	9.65	10.90	
C	0.140	0.201	3.56	5.10	
D	0.020	0.045	0.51	1.14	
F	0.131	0.170	3.34	4.31	Φ
G	0.079	0.121	2.01	3.07	
H	-----	0.250	-----	6.35	
J	0.011	0.025	0.28	0.64	
K	0.500	0.580	12.70	14.73	
L	0.045	0.060	1.14	1.52	
N	0.158	0.242	4.02	6.14	
Q	0.087	0.135	2.22	3.43	
R	0.080	0.126	2.04	3.19	
S	0.045	0.055	1.14	1.39	
T	0.230	0.270	5.84	6.86	
U	-----	0.050	-----	1.27	
V	0.045	-----	1.15	-----	

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

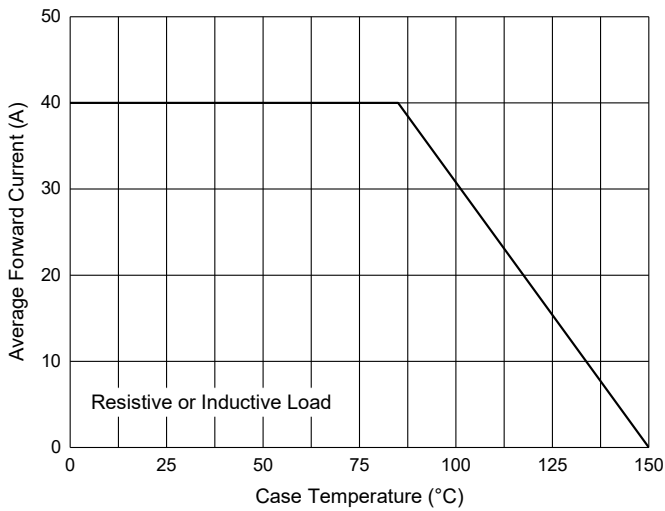


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

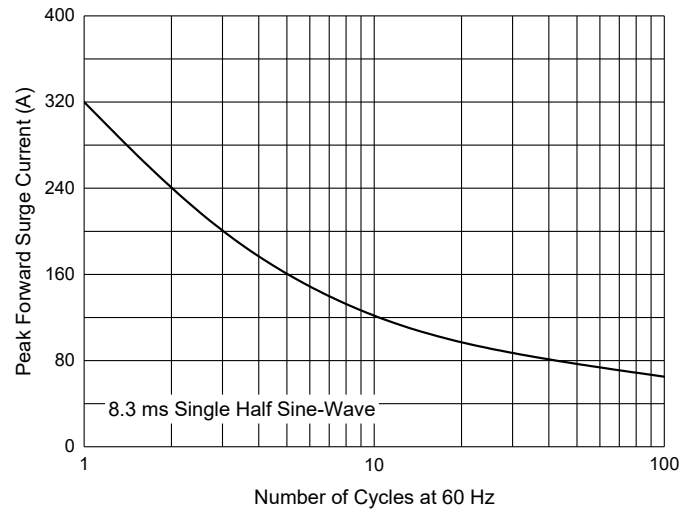


Fig. 3 - Typical Instantaneous Forward Characteristics

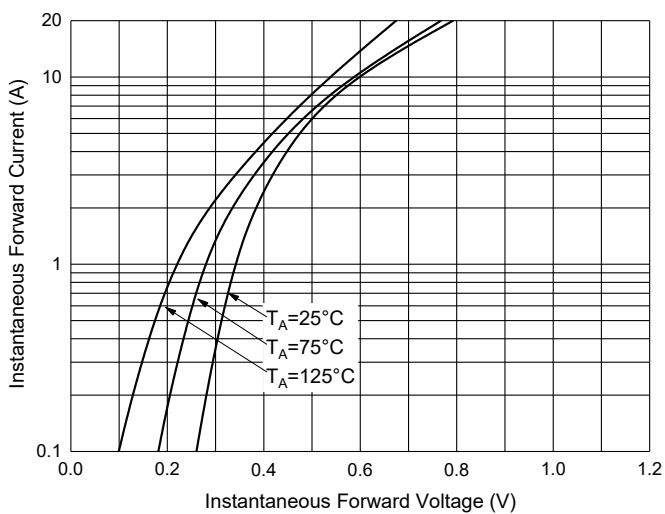


Fig. 2 - Typical Reverse Leakage Characteristics

