

Features

- High Surge Forward Current Capability
- Low Power Loss, High Efficiency
- Trench Mos Schottky Technology
- 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
- Resistance Junction to Case : 2.0°C/W

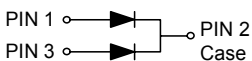
MCC Part Number	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
ST40120CT	120V	84V	120V

Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	40A	$T_C = 110^\circ C$
Peak Forward Surge Current	I_{FSM}	250A	8.3ms, half sine
Current Squared Time	I^2t	260A ² S	1ms ≤ t < 8.3ms $T_j = 25^\circ C$, Rating of per diode
Breakdown Voltage (Note 3)	V_{BR}	122V(Min)	$I_R = 1.0mA$
Forward Voltage Per Diode (Note 2)	V_F	0.78V(Typ) 0.85V(Max) 0.63V(Typ) 0.70V(Max)	$I_F = 20A, T_A = 25^\circ C$ $I_F = 20A, T_A = 125^\circ C$
Reverse Current Per Diode @ 120V (NOTE 3)	I_R	200µA(Max) 20mA(Max)	$T_J = 25^\circ C$ $T_J = 125^\circ C$

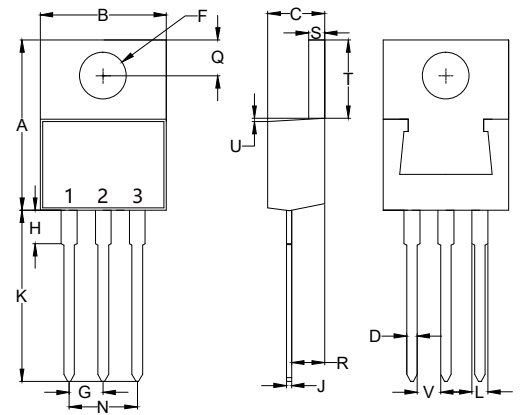
Note : 1. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.
 2. Pulse test: 300us pulse width, 1%duty cycle
 3. Pulse test: Pulse width ≤ 40ms.

Internal Structure



40 Amp Ultra Low VF Schottky Barrier Rectifier 120 Volts

TO-220AB



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

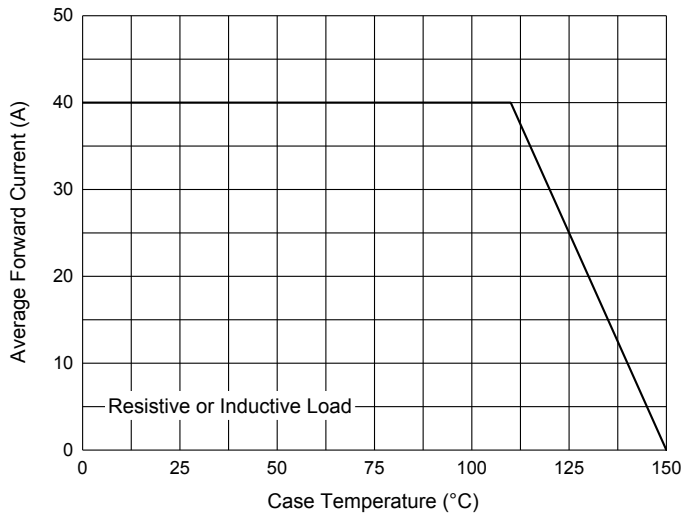


Fig. 2 - Typical Instantaneous Forward Characteristics

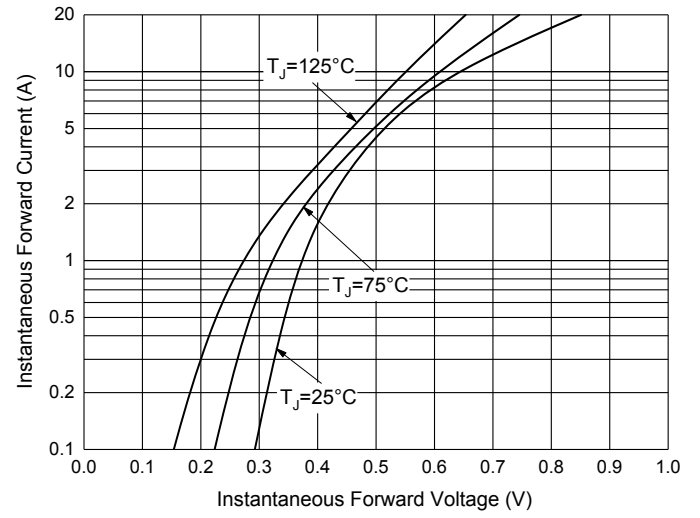
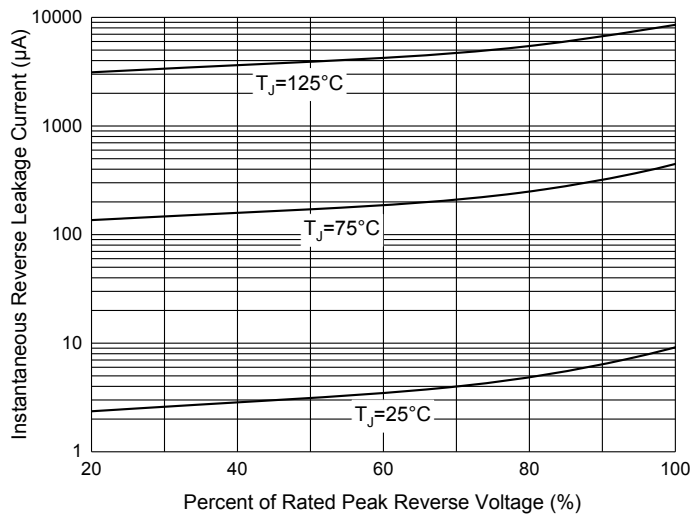


Fig. 3 - Typical Reverse Leakage Characteristics



Ordering Information

Device	Packing
Part Number-BP	Bulk:1Kpcs/Box

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.

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.