

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
STU40100CT	100V	70V	100V

Electrical Characteristics @ 25°C Unless Otherwise Specified

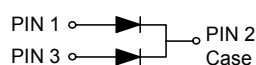
Average Forward Current	$I_{F(AV)}$	40A	$T_C = 110^\circ\text{C}$
Peak Forward Surge Current	I_{FSM}	300A	8.3ms, Half Sine
Current Squared Time	I^2t	373A ² S	1ms ≤ t < 8.3ms Tj=25°C, Rating of per diode
Breakdown Voltage (Note 3)	V_{BR}	100V(Min) 105V(Min)	$I_R=1.0\text{mA}$ $I_R=10\text{mA}$
Forward Voltage Per Diode (Note 2)	V_F	0.47V(Typ) 0.54V(Typ) 0.67V(Typ) 0.71V(Max) 0.38V(Typ) 0.45V(Typ) 0.61V(Typ) 0.67V(Max)	$I_F=5\text{A}, T_A=25^\circ\text{C}$ $I_F=10\text{A}, T_A=25^\circ\text{C}$ $I_F=20\text{A}, T_A=25^\circ\text{C}$ $I_F=5\text{A}, T_A=125^\circ\text{C}$ $I_F=10\text{A}, T_A=125^\circ\text{C}$ $I_F=20\text{A}, T_A=125^\circ\text{C}$
Reverse Current Per Diode(Note 3)	I_R	9μA(Typ) 200μA(Max) 10mA(Typ) 21mA(Typ) 45mA(Max)	$V_R=70\text{V}, T_A=25^\circ\text{C}$ $V_R=100\text{V}, T_A=25^\circ\text{C}$ $V_R=70\text{V}, T_A=125^\circ\text{C}$ $V_R=100\text{V}, T_A=125^\circ\text{C}$

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

2. Pulse test: 300us pulse width, 1%duty cycle

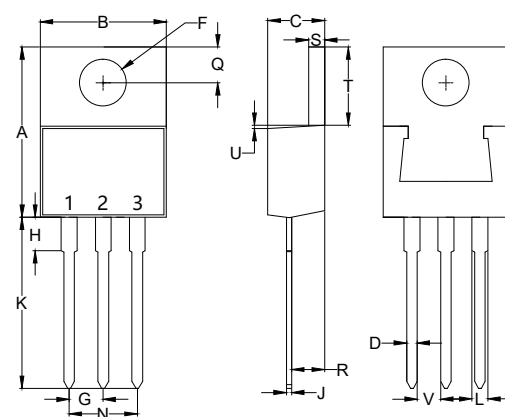
3. Pulse test: Pulse width≤40ms.

Internal Structure



40 Amp Ultra Low VF Schottky Barrier Rectifier 100 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

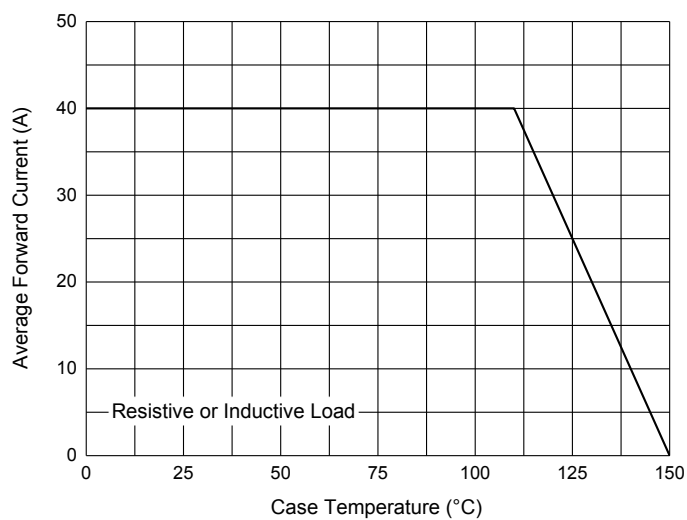


Fig. 2 - Typical Instantaneous Forward Characteristics

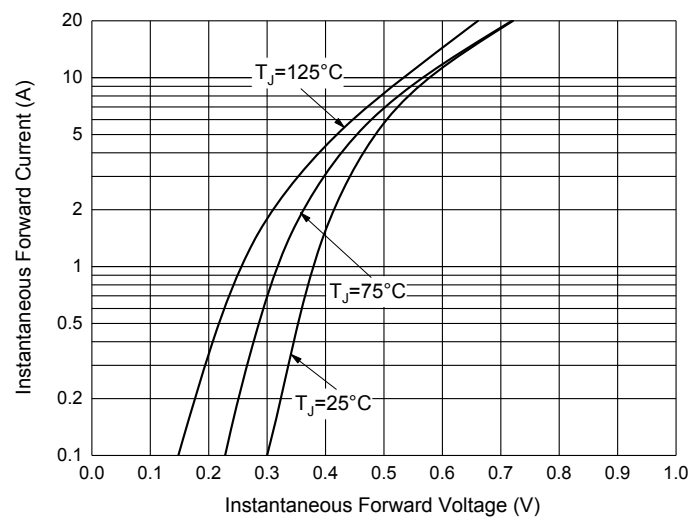
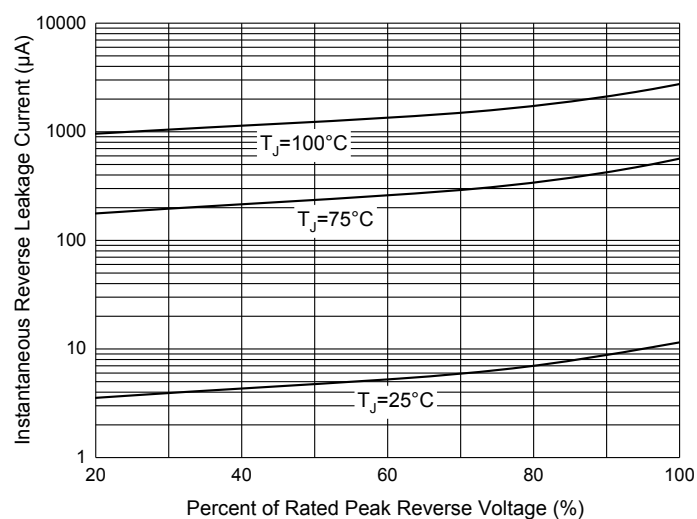


Fig. 3 - Typical Reverse Leakage Characteristics



Ordering Information

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

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

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