

**Features**

- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant (Note1) ("P" Suffix Designates Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Low Switching Losses and High Efficiency
- Low Reverse Leakage
- Ultrafast Recovery Time
- Planar Structure Die and Soft Recovery Characteristics

**Maximum Ratings**

- Operating Junction Temperature Range: -55°C to +175°C
- Storage Temperature Range: -55°C to +175°C
- Maximum Thermal Resistance: 2°C/W Junction to Case

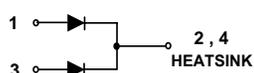
MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
MURS2040CTA	MURS2040CTA	400V	280V	400V

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

Average Rectified Forward Current	$I_{F(AV)}$	20A	$T_C=125^\circ\text{C}$	
Peak Forward Surge Current	$I_{FSM}$	120A	8.3ms, Half Sine	
Instantaneous Forward Voltage	$V_F$	1.10V(Typ) 1.25V(Max) 1.05V(Max)	$I_F=10\text{A}; T_J=25^\circ\text{C}$ $I_F=10\text{A}; T_J=25^\circ\text{C}$ $I_F=10\text{A}; T_J=125^\circ\text{C}$	
Maximum Reverse Current At Rated DC Blocking Voltage	$I_R$	5uA 50uA	$T_J=25^\circ\text{C};$ $T_J=125^\circ\text{C}$	
Typical Junction Capacitance	$C_J$	50pF	Measured at 1.0MHz, $V_R=4.0\text{V}$	
Reverse Recovery Time	$t_{rr}$	25ns(Typ.) 35ns(Max.)	$I_F=0.5\text{A}; I_R=1.0\text{A};$ $I_{RR}=0.25\text{A}$	
		33ns(Typ.) 55ns(Typ.)	$T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	$I_F=10\text{A}$ $di_f/dt=-200\text{A}/\mu\text{s}$ $V_R=200\text{V}$
Peak recovery current	$I_{RRM}$	4.1A(Typ.) 8.1A(Typ.)	$T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	
Reverse recovery charge	$Q_{rr}$	68nC(Typ.) 225nC(Typ.)	$T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	

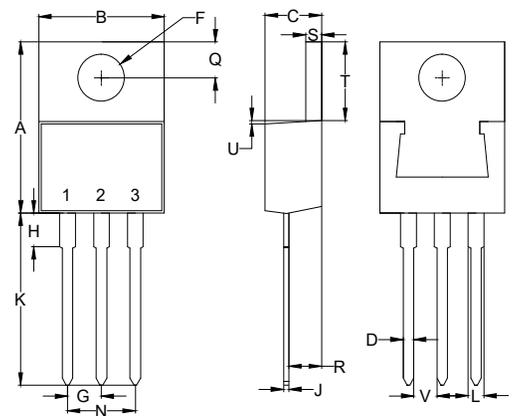
Note:1. High Temperature Solder Exemptions Applied, See EU Directive Annex 7a.

**Internal Structure**



**20 Amp  
FRED Rectifiers  
400 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	$\phi$
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

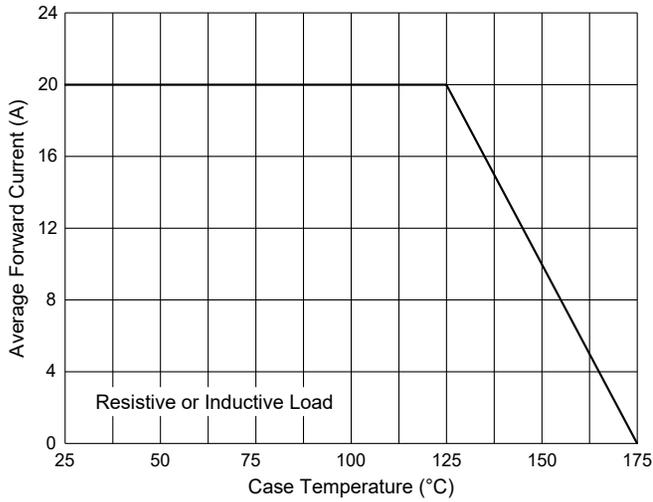


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

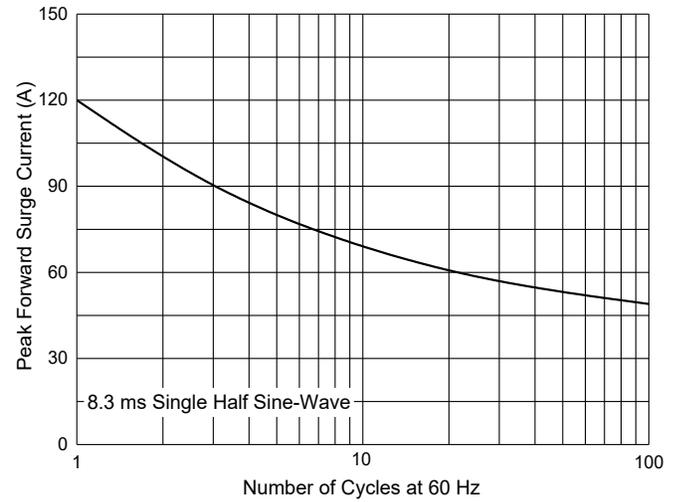


Fig. 3 - Typical Instantaneous Forward Characteristics

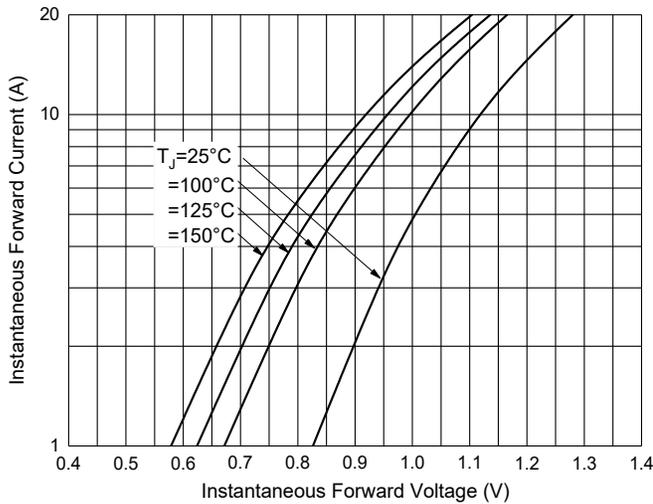
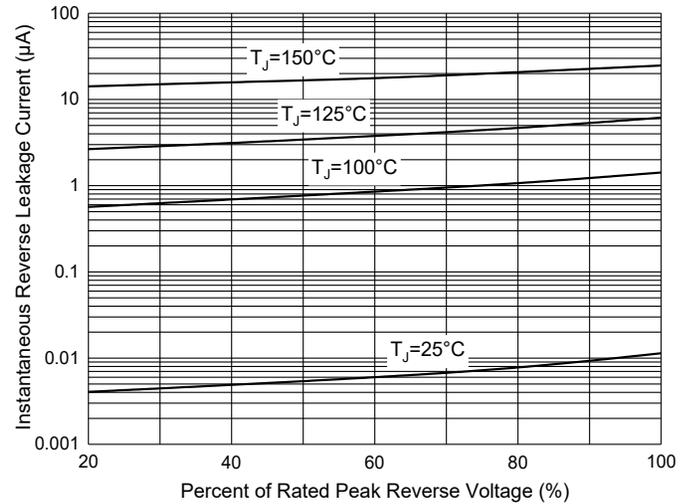


Fig. 4 - Typical Reverse Leakage Characteristics



## Ordering Information

Device	Packing
Part Number-BP	Bulk:50pcs/Tube,1Kpcs/Box,5Kpcs/Carton

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

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