

Features

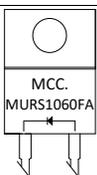
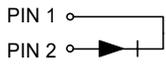
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix Designates Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Low Switching Losses and High Efficiency
- Low Reverse Leakage
- Ultrafast Recovery Time
- Planar Structure Die and Soft Recovery Characteristics

Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	600	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
RMS Reverse Voltage	V_{RMS}	420	V
Average Rectified Forward Current	$I_{F(AV)}$	10	A
Non-Repetitive Peak Surge Current @8.3ms Half Sine Wave	I_{FSM}	120	A
Current Squared Time @ $1ms \leq t \leq 8.3ms$	I^2t	59.76	A ² s

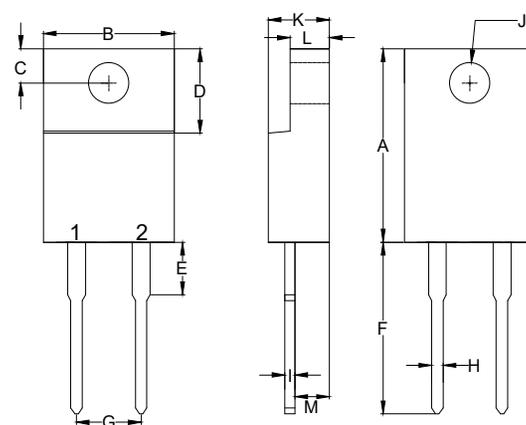
10 Amp FRED Rectifiers 600 Volts

Internal Structure

Pin	Description	Simplified Outline	Graphic Symbol
1	Cathode		
2	Anode		

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

ITO-220AC



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.567	0.606	14.40	15.40	
B	-----	0.406	-----	10.30	
C	0.100	0.112	2.55	2.85	
D	0.248	0.272	6.30	6.90	
E	-----	0.161	-----	4.10	
F	0.500	0.543	12.70	13.80	
G	0.200		5.10		
H	-----	0.035	-----	0.90	
I	-----	0.032	-----	0.80	
J	0.102	0.134	2.60	3.40	Φ
K	-----	0.189	-----	4.80	
L	-----	0.123	-----	3.10	
M	0.098	0.114	2.50	2.90	

Thermal characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
T_J	Operating Junction Temperature Range		-55		175	°C
T_{stg}	Storage Temperature Range		-55		175	°C
$R_{th(J-C)}$	Thermal Resistance from Junction to Case			4		°C/W

Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage	V_F	$I_F=10A; T_J=25^\circ C$		1.40	1.60	V
		$I_F=10A; T_J=150^\circ C$		1.18	1.30	
Reverse Current	I_R	$V_R=600V; T_J=25^\circ C$			5	uA
		$V_R=600V; T_J=150^\circ C$			200	
Junction Capacitance	C_J	$V_R=4V; f=1MHz; T_J=25^\circ C$		45		pF

Dynamic Recovery Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Reverse Recovery Time	t_{rr}	$I_F=0.5A; I_R=1.0A; I_{RR}=0.25A; T_J=25^\circ C$		20	35	ns	
			$T_J=25^\circ C$		102		
			$T_J=150^\circ C$		152		
Peak Recovery Current	I_{RRM}	$I_F=10A$ $d_{IF}/d_t=-200A/\mu s$ $V_{RM}=400V$	$T_J=25^\circ C$		3.52	A	
			$T_J=150^\circ C$		8.18		
Reverse Recovery Charge	Q_{rr}		$T_J=25^\circ C$		180	nC	
			$T_J=150^\circ C$		623		

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

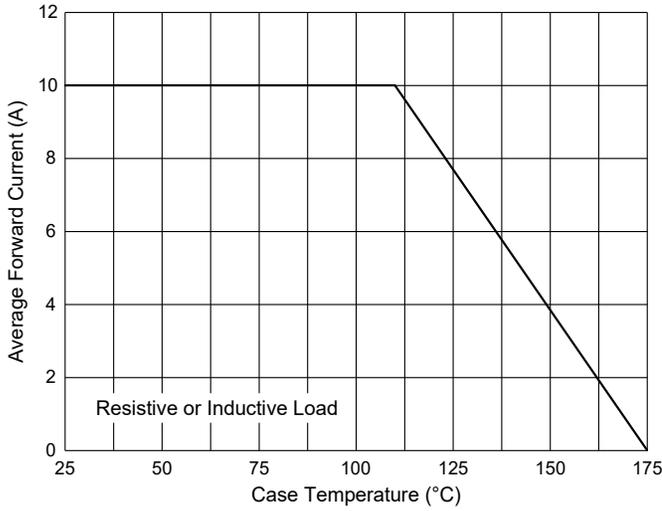


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

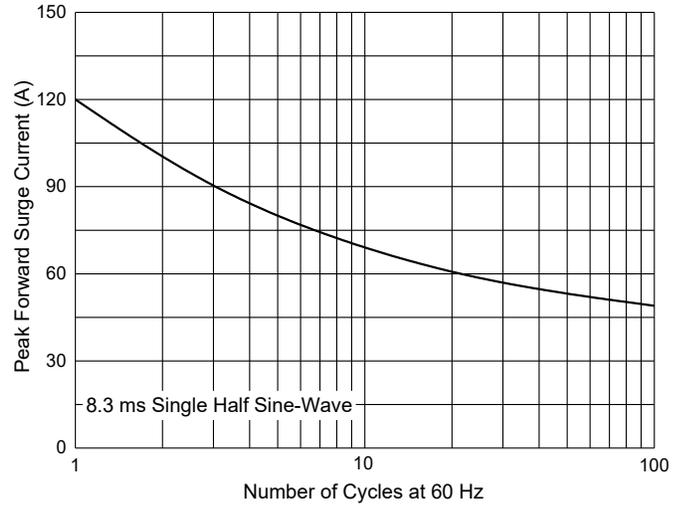


Fig. 3 - Typical Forward Characteristics

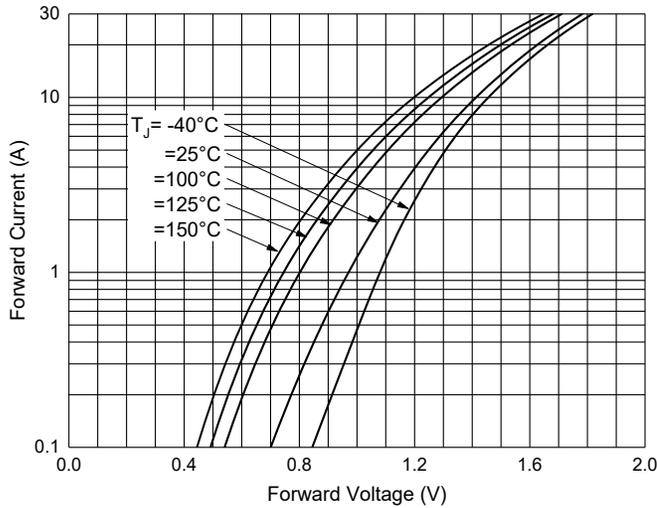


Fig. 4 - Typical Reverse Leakage Characteristics

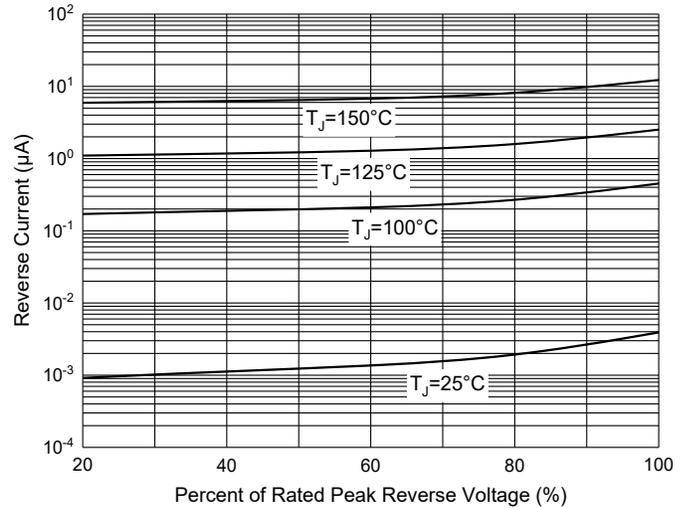


Fig. 5 - Typical Capacitance Characteristics

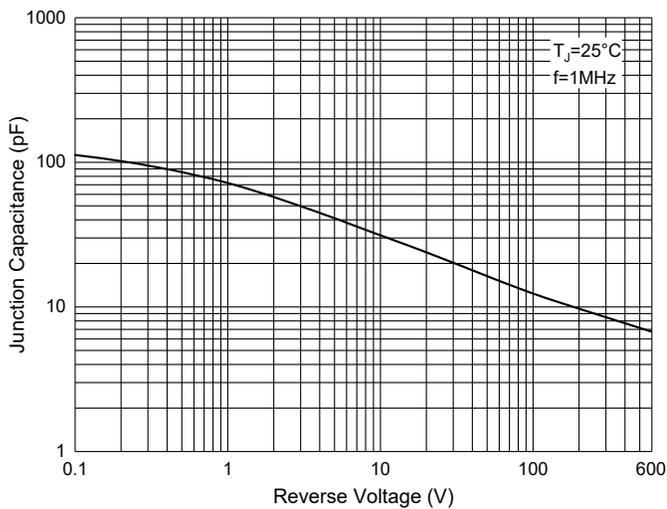
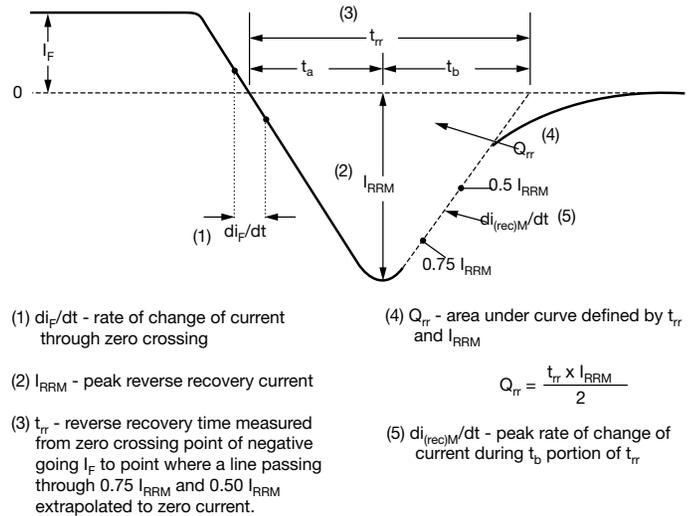


Fig. 6 - Reverse Recovery Waveform and Definitions



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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