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
- Moisture Sensitivity Level 1
- Planar Structure Die and Soft Recovery Characteristics

30 Amp FRED Rectifiers 600 Volts

Maximum Ratings

- Operating Junction Temperature Range: -55ºC to +175ºC
- Storage Temperature Range: -55ºC to +175ºC
- Typical Thermal Resistance: 0.7°C/W Junction to Case

MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
MURSB3060C	MURSB3060C	600V	420V	600V

Electrical Characteristics @ 25°C Unless Otherwise Specified

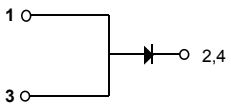
Average Rectified Forward Current	$I_{F(AV)}$	30A	T_C = 130°C
Peak Forward Surge Current	I_{FSM}	300A	8.3ms,Half Sine
Maximum Instantaneous Forward Voltage	V_F	1.6V(Typ) 2.0V(Max) 1.35V(Typ)	I_F=30A;T_J=25ºC I_F=30A;T_J=25ºC I_F=30A;T_J=150ºC
Maximum Reverse Current At Rated DC Blocking Voltage	I_R	5µA 1mA	T_J=25ºC; T_J=150ºC
Typical Junction Capacitance	C_J	180pF	Measured at 1.0MHz, V_R=4.0V

Dynamic Recovery Characteristics @ 25°C Unless Otherwise Specified

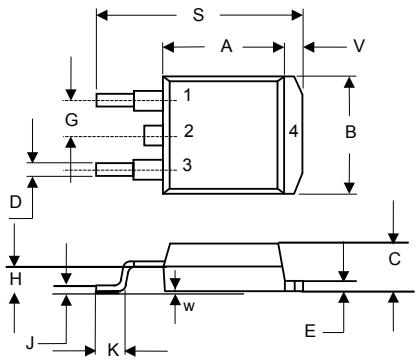
Reverse Recovery Time	t_{rr}	35ns(Typ.) 45ns(Max.)	I_F=0.5A; I_R=1.0A; I_{RR}=0.25A	
		75ns(Typ.) 135ns(Typ.)	T_J=25ºC T_J=150ºC	I_F = 30A di_F/dt = -200 A/µs V_R = 400 V
Peak recovery current	I_{RRM}	4.5A(Typ.) 14.3A(Typ.)	T_J=25ºC T_J=150ºC	
Reverse recovery charge	Q_{rr}	170nC(Typ.) 980nC(Typ.)	T_J=25ºC T_J=150ºC	

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

Internal Structure

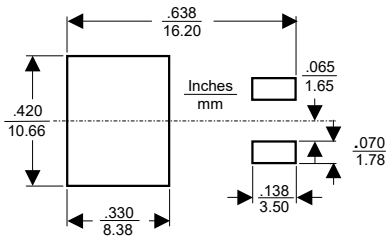


D²-PAK



DIM	INCHES MIN	INCHES MAX	MM MIN	MM MAX	NOTE
DIMENSIONS					
A	0.331	0.370	8.40	9.40	
B	0.378	0.417	9.60	10.60	
C	0.165	0.189	4.20	4.80	
D	0.027	0.037	0.68	0.94	
E	0.045	0.055	1.14	1.40	
G	0.010		2.54		TYP.
H	0.096	0.134	2.43	3.40	
J	0.011	0.025	0.28	0.64	
K	0.071	0.131	1.80	3.32	
S	0.575	0.625	14.60	15.87	
V	0.042	0.058	1.07	1.47	
W	0.000	0.010	0.00	0.25	

Suggested Solder Pad Layout



Curve Characteristics

Fig. 1 - Forward Current Derating Curve

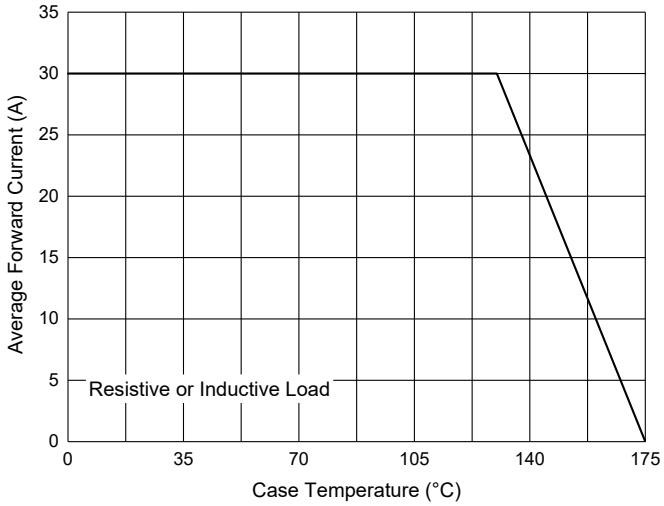


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

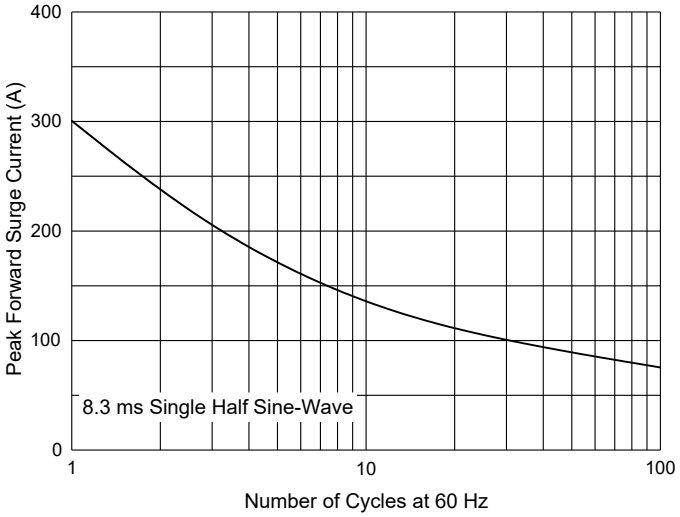


Fig. 3 - Typical Instantaneous Forward Characteristics

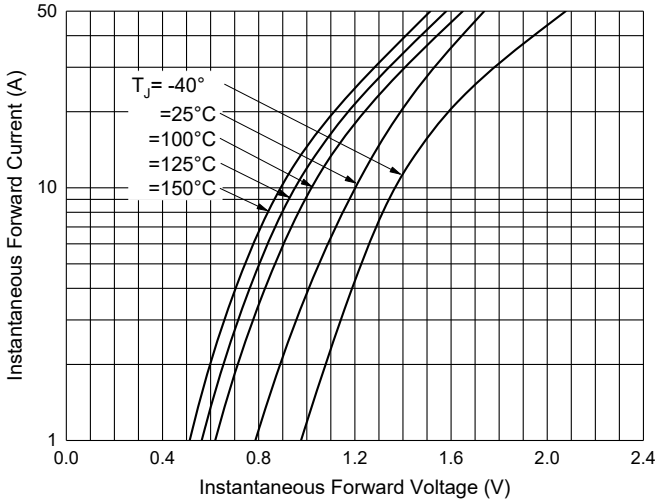


Fig. 4 - Typical Reverse Leakage Characteristics

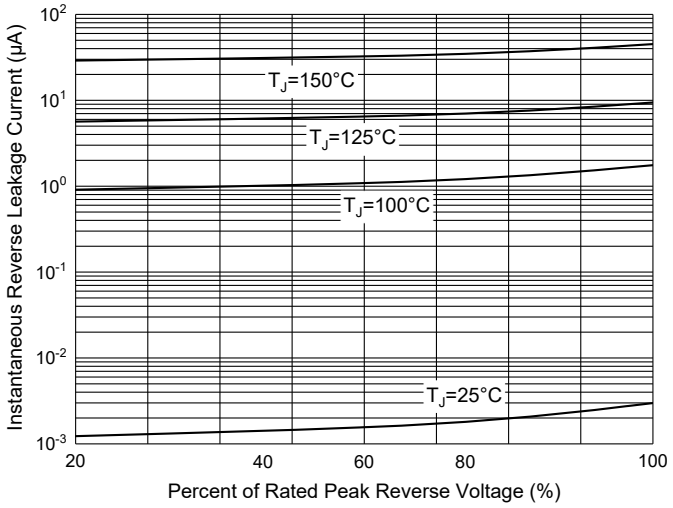


Fig. 5 - Typical Capacitance Characteristics

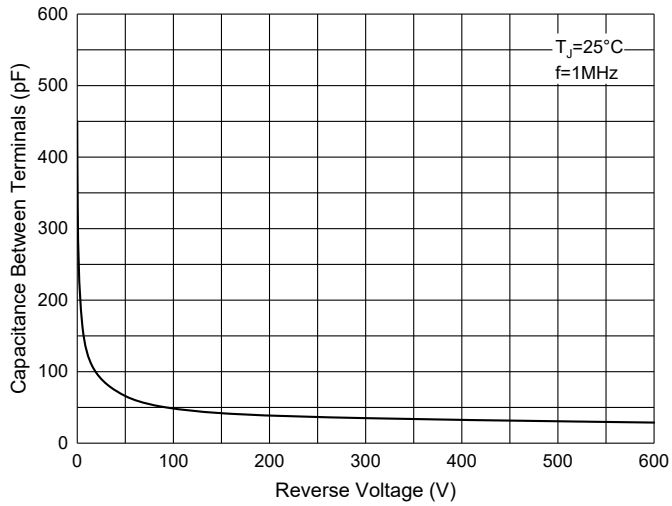
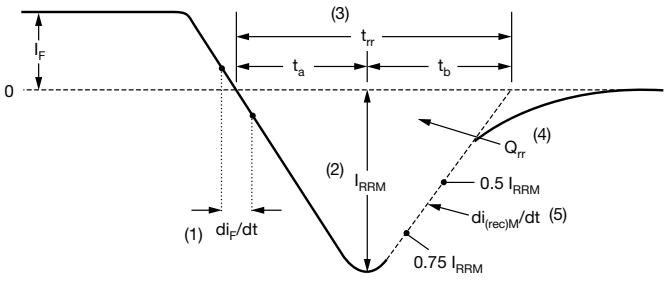


Fig. 6 - Reverse Recovery Waveform and Definitions



(1) di_F/dt - rate of change of current through zero crossing

(2) I_{RRM} - peak reverse recovery current

(3) t_{rr} - reverse recovery time measured from zero crossing point of negative going I_F to point where a line passing through 0.75 I_{RRM} and 0.50 I_{RRM} extrapolated to zero current.

(4) Q_{rr} - area under curve defined by t_{rr} and I_{RRM}

$$Q_{rr} = \frac{t_{rr} \times I_{RRM}}{2}$$

(5) $di_{(rec)M}/dt$ - peak rate of change of current during t_b portion of t_{rr}

Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 800pcs/Reel
Part Number-BP	Tube: 5Kpcs/Ctn

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

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