Features

- High Frequency Operation
- High Surge Forward Current Capability
- Halogen Free. “Green” Device (Note 1)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant(Note 2) ("P" Suffix Designates RoHS Compliant. See Ordering Information)
- Planar Structure Die and Soft Recovery Characteristics

6 Amp FRED Rectifiers 200 Volts

Maximum Ratings

- Operating Junction Temperature Range: -65°C to +175°C
- Storage Temperature Range: -65°C to +175°C
- Maximum thermal Resistance:3.0°C/W Junction to Lead
- Maximum thermal Resistance:85°C/W Junction to Ambient

MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
TES6DH	TES6DH	200V	140V	200V

Electrical Characteristics @ 25°C Unless Otherwise Specified

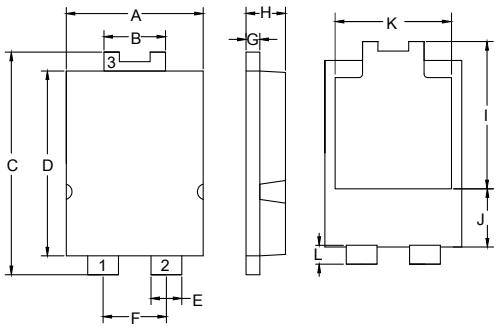
Average Forward Current	$I_{F(AV)}$	6A	T_L = 155°C
Peak Forward Surge Current	I_{FSM}	150A	8.3ms, Half Sine
Forward Voltage Drop Per Element	V_F	0.94V(Max.) 0.87V(Typ.) 0.80V(Max.) 0.70V(Typ.)	I_F=6A ;T_J = 25°C I_F=6A ;T_J = 25°C I_F=6A ;T_J = 125°C I_F=6A ;T_J = 125°C
DC Reverse Current At Rated DC Blocking Voltage	I_R	2μA(Max.) 2.5μA(Typ.) 15μA(Max.)	T_J = 25°C T_J = 125°C T_J = 125°C
Typical Junction Capacitance	C_J	140pF	Measured at 1.0MHz, V_R=4.0V

Dynamic Recovery Characteristics @ 25°C Unless Otherwise Specified

Reverse Recovery Time	t_{rr}	18ns(Typ.) 25ns(Max.)	I_F=0.5A; I_R=1.0A; I_{RR}=0.25A	
		29ns(Typ.) 34ns(Typ.)	T_J=25ºC T_J=125ºC	I_F = 6 A di_F/dt = 200 A/μs V_R = 200 V
Peak recovery current	I_{RRM}	3.3A(Typ.) 5.9A(Typ.)	T_J=25ºC T_J=125ºC	
Reverse recovery charge	Q_{rr}	49nC(Typ.) 105nC(Typ.)	T_J=25ºC T_J=125ºC	

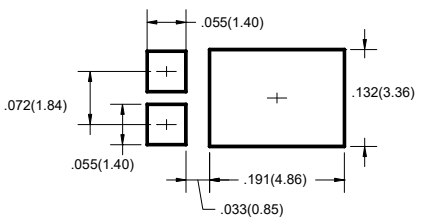
Note:
1. Halogen free "Green"products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. High Temperature Solder Exemptions Applied, See EU Directive Annex 7a.

TO-277



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.154	0.161	3.90	4.10	
B	0.067	0.075	1.70	1.90	
C	0.252	0.260	6.40	6.60	
D	0.209	0.217	5.30	5.50	
E	0.031	0.039	0.80	1.00	
F	0.071	0.075	1.80	1.90	
G	0.014	0.018	0.35	0.45	
H	0.043	0.047	1.10	1.20	
I	0.161	0.177	4.10	4.50	
J	0.059	0.075	1.50	1.90	
K	0.114	0.134	2.90	3.40	
L	0.022	0.030	0.55	0.75	

Solder Pad Layout



Curve Characteristics

Fig. 1 - Forward Current Derating Curve

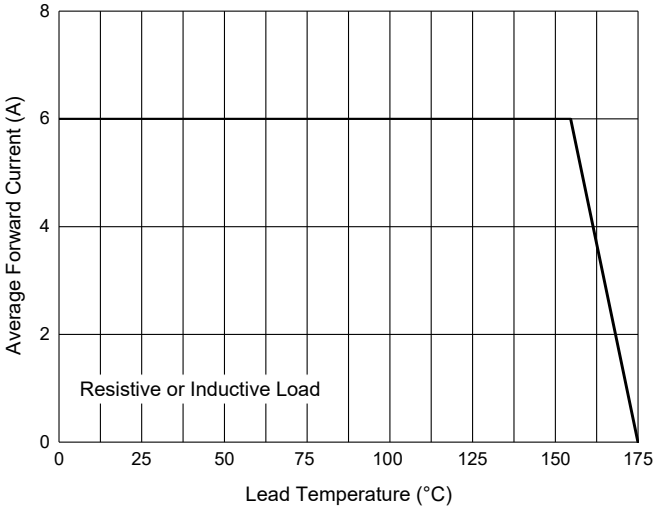


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

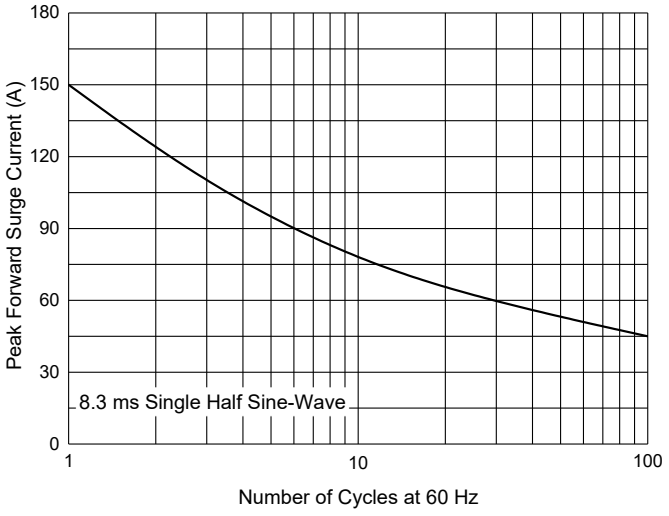


Fig. 3 - Typical Instantaneous Forward Characteristics

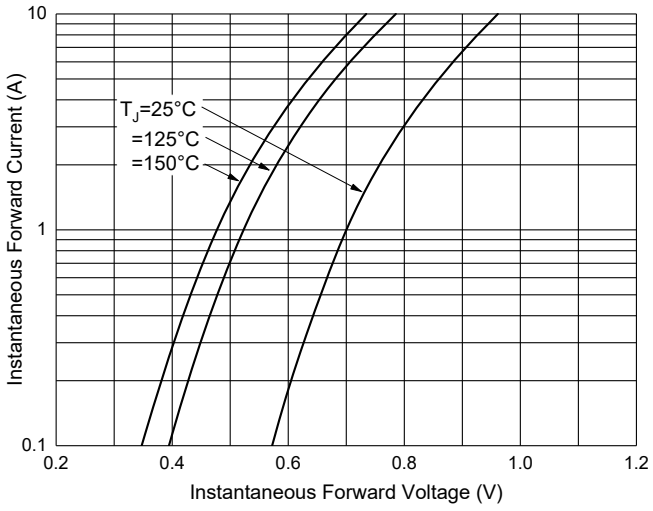


Fig. 4 - Typical Reverse Leakage Characteristics

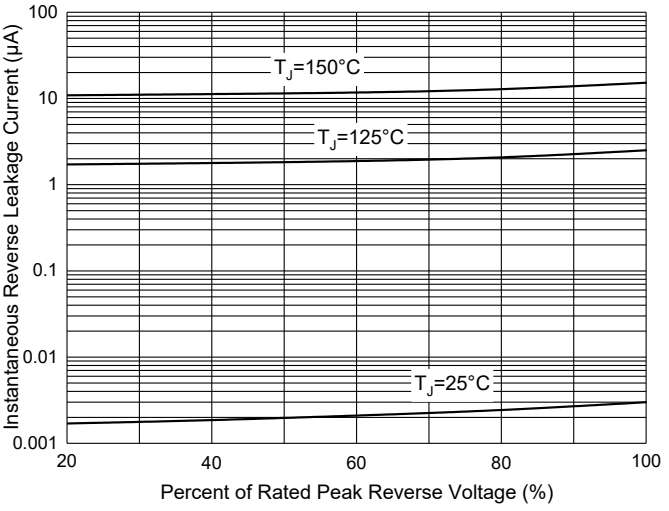


Fig. 5 - Capacitance Characteristics

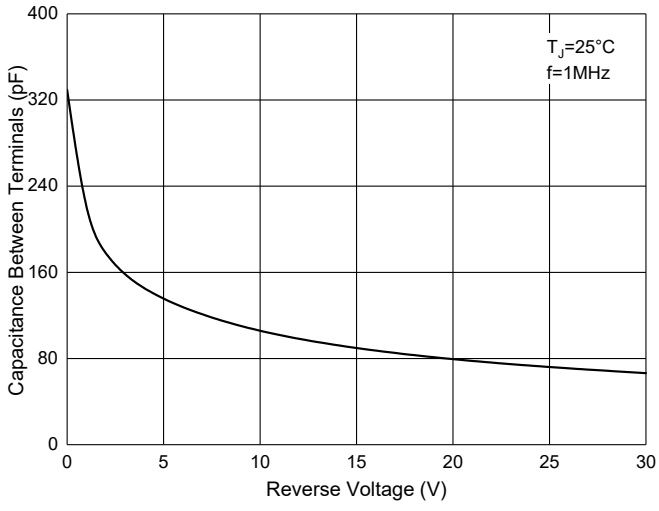
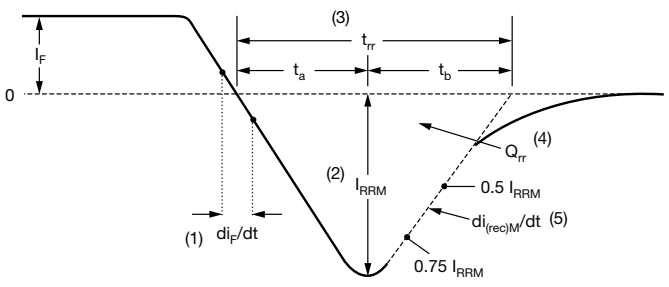


Fig. 6 - Reverse Recovery Waveform and Definitions



(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: 4Kpcs/Reel

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