

## Features

- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant (Note 2) ("P" Suffix Designates Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Low Switching Losses and High Efficiency
- Low Reverse Leakage
- Ultrafast Recovery Time
- Planar Structure Die and Soft Recovery Characteristics

## 5 Amp FRED Rectifiers 400 Volts

## Maximum Ratings

- Operating Junction Temperature Range: -55°C to +175°C
- Storage Temperature Range: -55°C to +175°C
- Typical Thermal Resistance: 5°C/W Junction to Case

MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
MURSD540A	MURSD540A	400V	280V	400V

## Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Rectified Forward Current	$I_{F(AV)}$	5A	$T_C=140^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	70A	8.3ms, Half Sine
Instantaneous Forward Voltage	$V_F$	1.08V(Typ) 1.25V(Max) 1.05V(Max)	$I_F=5\text{A}; T_J=25^\circ\text{C}$ $I_F=5\text{A}; T_J=25^\circ\text{C}$ $I_F=5\text{A}; T_J=125^\circ\text{C}$
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	$C_J$	35pF	Measured at 1.0MHz, $V_R=4.0\text{V}$
Reverse Recovery Time	$t_{rr}$	25ns(Typ.) 35ns(Max.) 30ns(Typ.) 46ns(Typ.)	$I_F=0.5\text{A}; I_R=1.0\text{A}; I_{RR}=0.25\text{A}$ $T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$
Peak recovery current	$I_{RRM}$	3.1A(Typ.) 5.1A(Typ.)	$T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$
Reverse recovery charge	$Q_{rr}$	47nC(Typ.) 120nC(Typ.)	$T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$
			$I_F=5\text{A}$ $di_F/dt=-200\text{A}/\mu\text{s}$ $V_R=200\text{ V}$

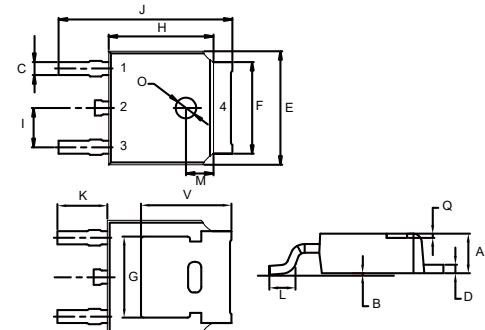
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

2. High temperature solder exemption applied, see EU directive annex 7a.

## Internal Structure



DPAK(TO-252)



DIM	DIMENSIONS				NOTE
	INCHES	MIN	MAX	MM	
A	0.087	0.094	2.20	2.40	
B	0.000	0.005	0.00	0.13	
C	0.026	0.034	0.66	0.86	
D	0.018	0.023	0.46	0.58	
E	0.256	0.264	6.50	6.70	
F	0.201	0.215	5.10	5.46	
G	0.190		4.83		
H	0.236	0.244	6.00	6.20	
I	0.086	0.094	2.18	2.39	
J	0.386	0.409	9.80	10.40	
K	0.114		2.90		
L	0.055	0.067	1.40	1.70	
M	0.063		1.60		
O	0.043	0.051	1.10	1.30	
Q	0.000	0.012	0.00	0.30	
V	0.211		5.35		

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

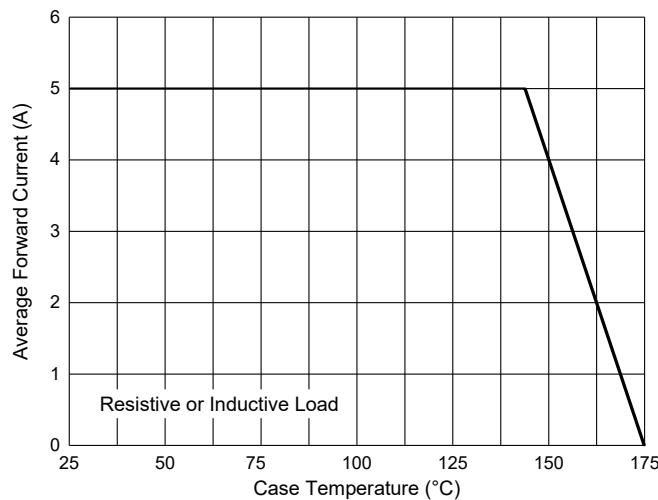


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

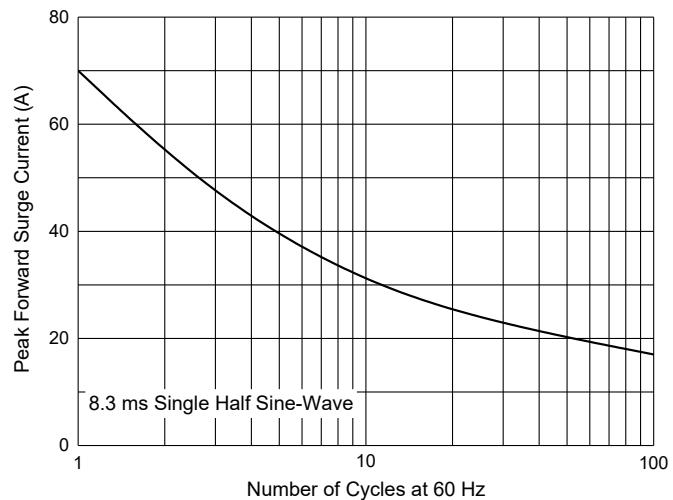


Fig. 3 - Typical Instantaneous Forward Characteristics

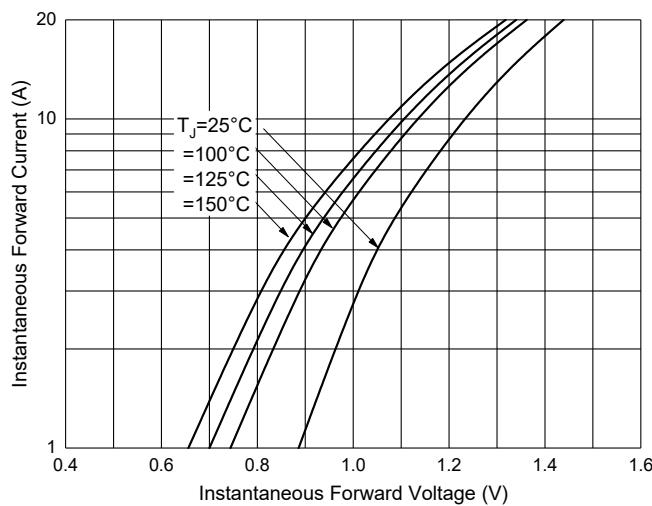
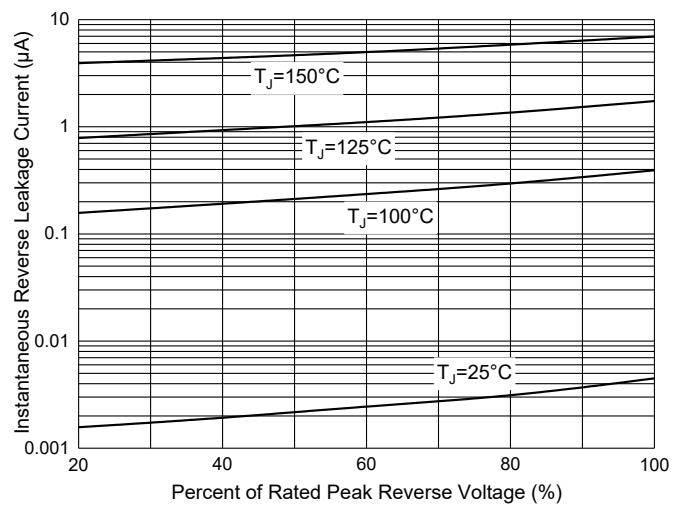


Fig. 4 - Typical Reverse Leakage Characteristics



## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 2.5Kpcs/Reel

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