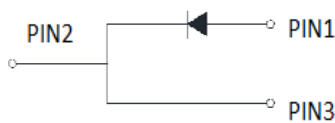


Ultra-Fast Recovery Diodes 5A FRED Pt



Features

- Adopt FRED chip
- Low forward Voltage drop
- Fast reverse recovery time
- High frequency operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability

Typical Applications

Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

Mechanical Data

- **Package:** TO-220AC
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked

■Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MUR540
Device marking code			MUR540
Repetitive Peak Reverse Voltage	V_{RRM}	V	400
Average Rectified Output Current @60Hz sine wave, R-load, (FIG.1)	I_O	A	5
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, Ta=25°C	I_{FSM}	A	50
Current Squared Time @1ms≤t≤8.3ms Tj=25°C,	I^2t	A ² s	10
Storage Temperature	T_{stg}	°C	-55 ~ +150
Junction Temperature	T_j	°C	-55 ~ +150
Junction capacitance @4V,1MHz	C_j	pF	50



MUR540

■Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max	
Instantaneous forward voltage drop per diode	V_{FM}	V	$I_{FM}=5.0A @T_j=25^{\circ}C$	-	1.15	1.25	
			$I_{FM}=5.0A @T_j=150^{\circ}C$	-	0.9	1	
DC reverse current at rated DC blocking voltage per diode	I_{RRM1}	uA	$V_{RM}=V_{RRM}$ $T_j=25^{\circ}C$	-	-	5	
	I_{RRM2}		$V_{RM}=V_{RRM}$ $T_j=150^{\circ}C$	-	25	50	
Reverse Recovery Time	T_{RR}	ns	$I_F=0.5A$ $I_{RM}=1A$ $I_{RR}=0.25A$ $T_j=25^{\circ}C$	-	25	35	
Peak recovery current	I_{RRM}	A	$T_j=25^{\circ}C$	$I_F=5A$ $di/dt=-200A/us$ $V_{RM}=200V$	-	3.49	-
			$T_j=125^{\circ}C$		-	5.71	-
Reverse recovery charge	Q_{rr}	nC	$T_j=25^{\circ}C$		-	55.22	-
			$T_j=125^{\circ}C$		-	130	-

■Thermal Characteristics ($T_a=25^{\circ}C$ Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MUR540
Thermal Resistance	Between junction and case	$R_{\theta J-C}$	$^{\circ}C/W$	2.0
	Between junction and Air	$R_{\theta J-A}$	$^{\circ}C/W$	50

■Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MUR540	Approximate 1.8	50	1000	5000	Tube

■Characteristics (Typical)

FIG1: $I_o - T_c$ Curve

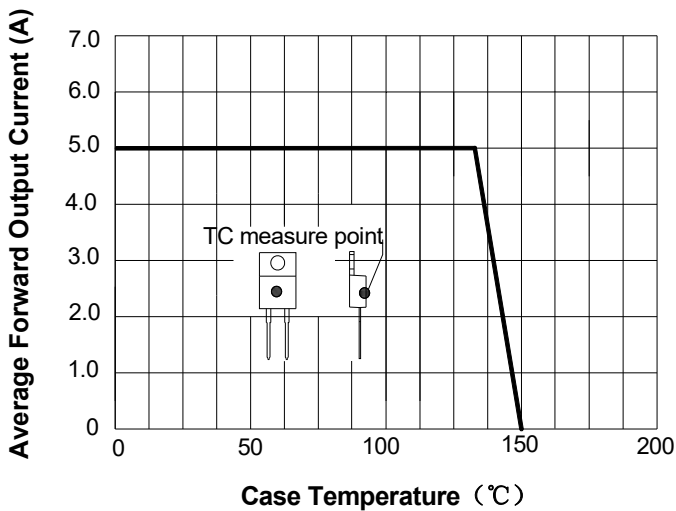


FIG2: Surge Forward Current Capability

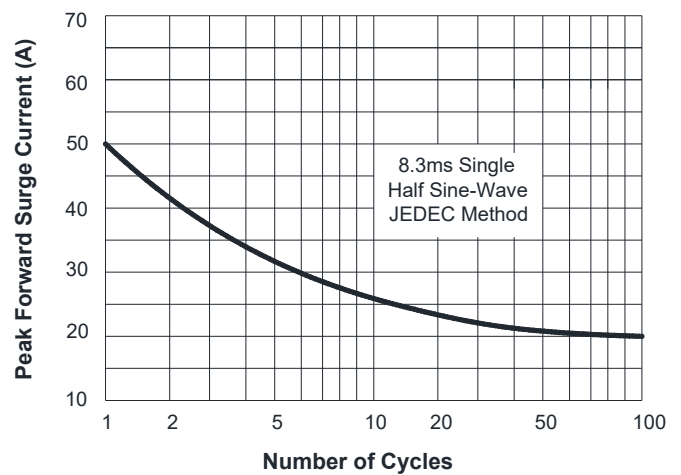


FIG3: Forward Voltage

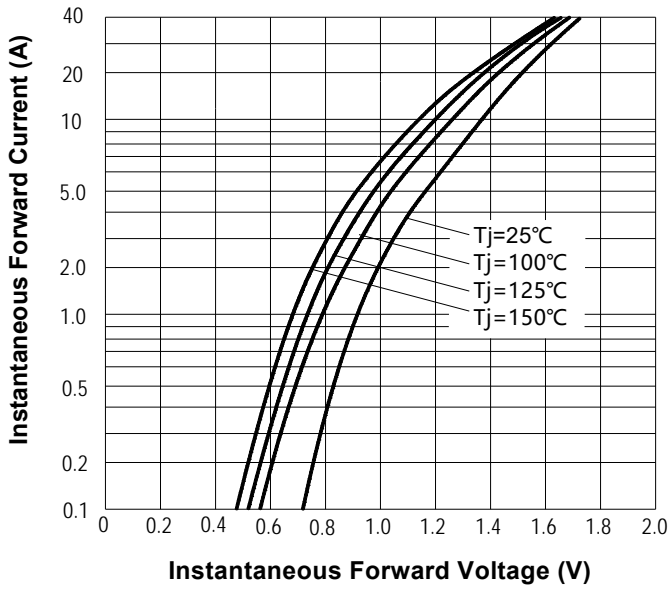


FIG.4: Instantaneous Reverse Characteristics

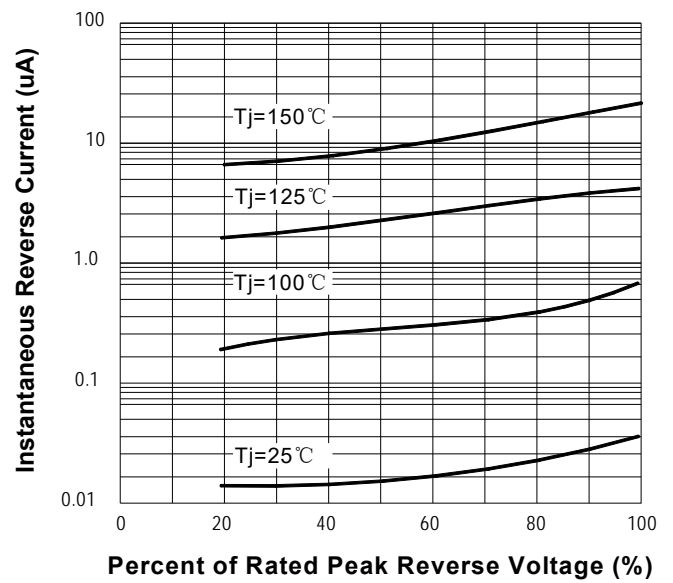
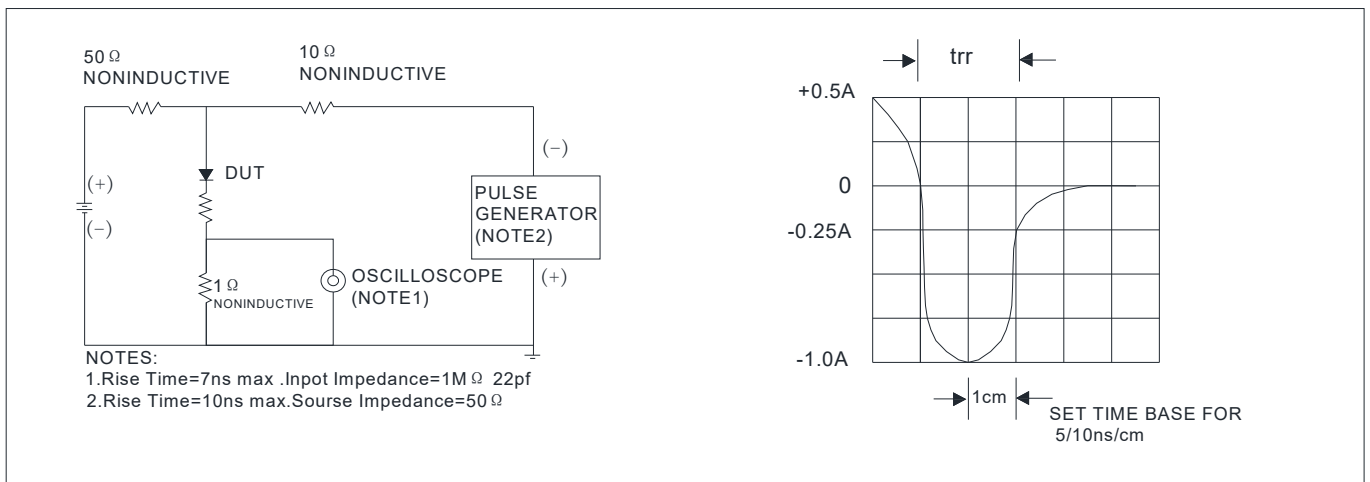
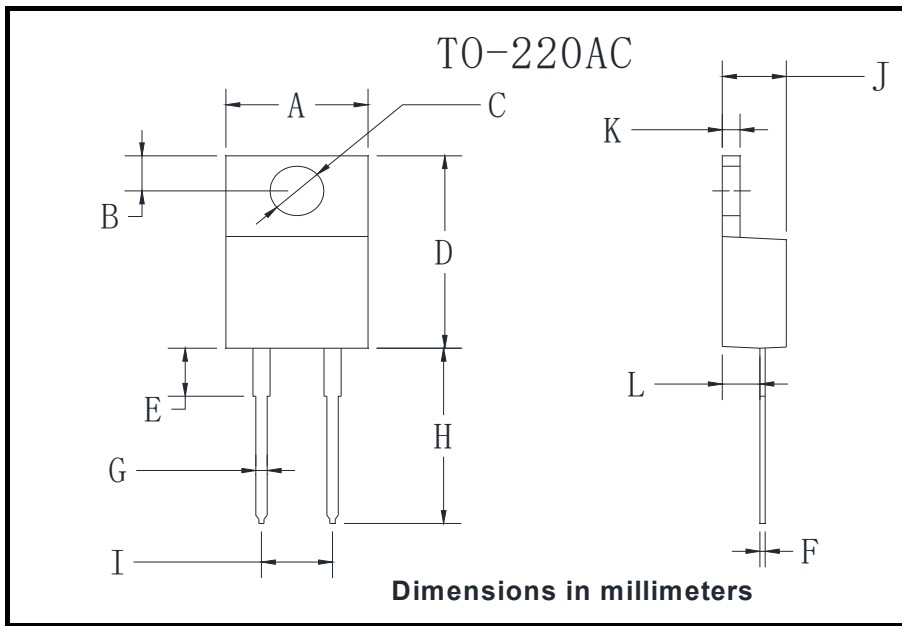


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



■Outline Dimensions



TO-220AC		
Dim	Min	Max
A	9.95	10.35
B	2.55	2.95
C	3.75	4.05
D	14.95	15.25
E	3.75	4.25
F	0.26	0.5
G	0.68	0.94
H	13.3	13.9
I	4.86	5.26
J	4.38	4.78
K	1.14	1.4
L	2.37	2.79



MUR540

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