Ultra-Fast Recovery Diodes 8A*2 FRED

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-220AB
  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 (Tj=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MUR1640CT
Device marking code			MUR1640CT
Repetitive Peak Reverse Voltage	V_{RRM}	V	400
Average Rectified Output Current @60Hz sine wave, R-load, T_C(FIG.1)	I_O	A	16
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T_j=25	I_{FSM}	A	100
Current Squared Time @1ms≤t≤8.3ms Tj=25 ,	I^2t	A^2s	41
Storage Temperature	T_{stg}		-55 ~ +175
Junction Temperature	T_j		

■Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Instantaneous forward voltage drop per diode	V_{FM}	V	I_{FM}=8.0A @Tj=25		-	1.15	1.30
			I_{FM}=8.0A @Tj=150			0.9	1.0
DC reverse current at rated DC blocking voltage per diode	I_{RRM1}	uA	V_{RM}=V_{RRM} Tj=25		-	-	5
	I_{RRM2}		V_{RM}=V_{RRM} Tj=150		-	30	100
Reverse Recovery Time	Trr	ns	I_F=0.5A I_{RM}=1A I_{RR}=0.25A Tj=25		-	25	35
			Tj=25	IF=8A di/dt=-200A/us V_{RM}=200V	-	33.3	-
			Tj=125		-	54.5	-
Peak recovery current	I_{RRM}	A	Tj=25		-	3.39	-
			Tj=125		-	6.17	-
Reverse recovery charge	Qrr	nC	Tj=25		-	56.17	-
			Tj=125		-	180	-

■Thermal Characteristics （Tj=25℃ Unless otherwise specified）

PARAMETER		SYMBOL	UNIT	MUR1640CT
Thermal Resistance	Between junction and case	$R_{\theta J-C}$	/W	2.0
Thermal Resistance	Between junction and Air	$R_{\theta J-A}$	/W	50

■Ordering Information (Example)

PREFERED P/N	UNIT WEIGHT(g)	MINIIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MUR1640CT	Approximate 1.88	50	1000	5000	Tube

■Characteristics (Typical)

FIG1:Io -Tc Curve

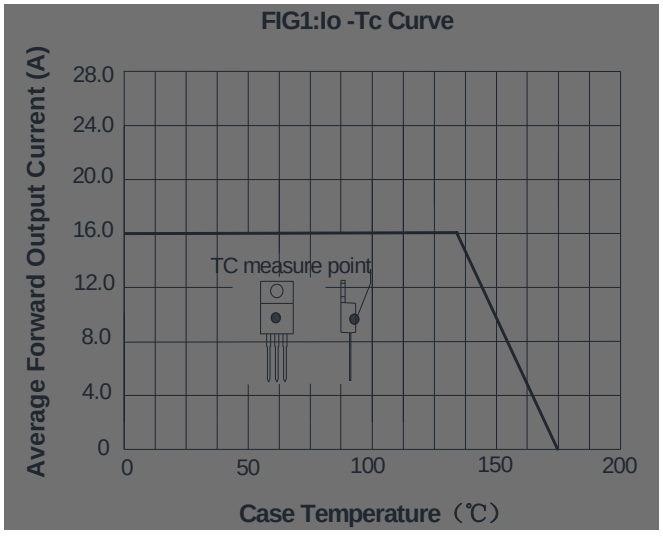
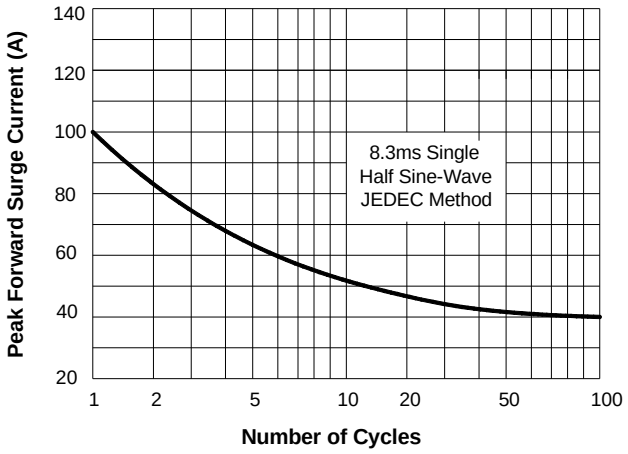
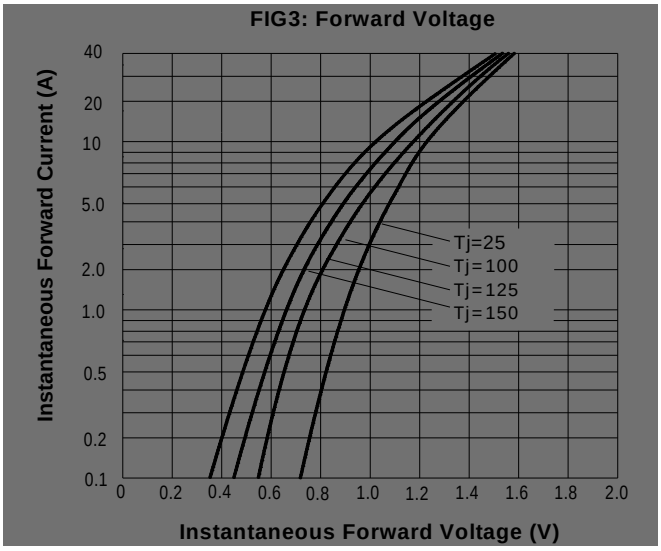


FIG2:Surge Forward Current Capability





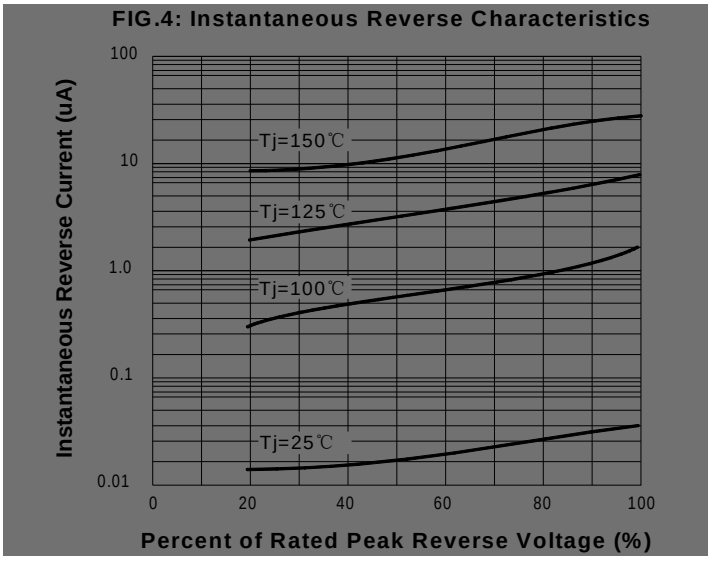
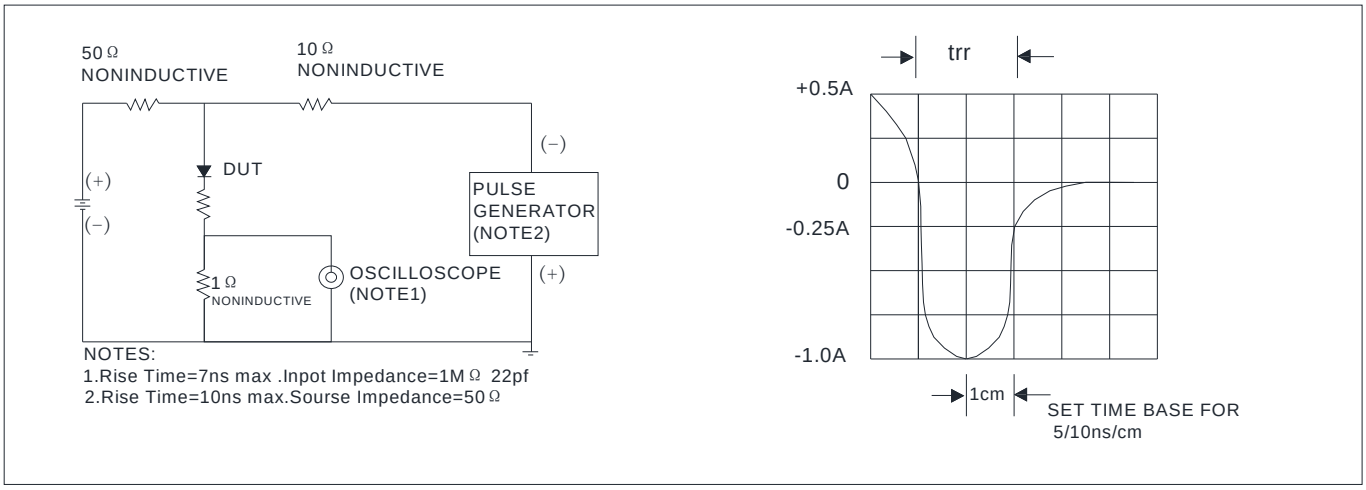
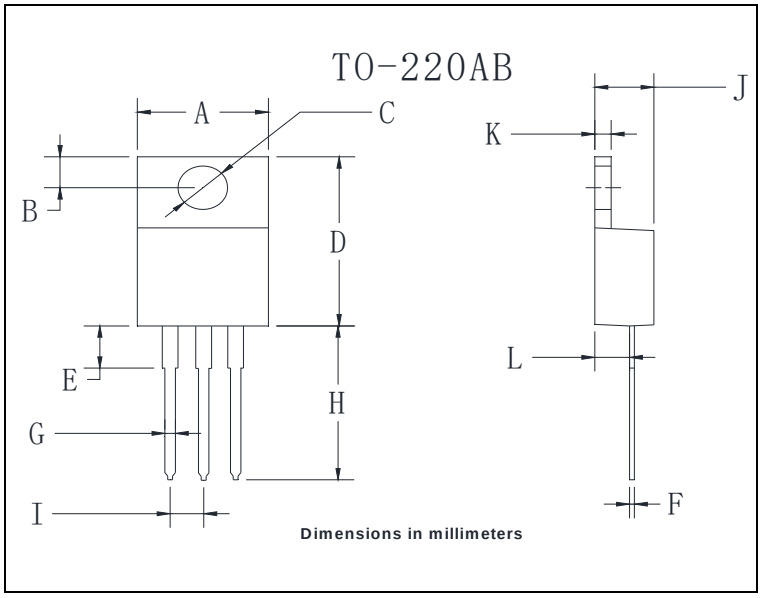


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



■Outline Dimensions



TO-220AB		
Dim	Min	Max
A	9.95	10.35
B	2.55	2.95
C	3.8	4.0
D	14.95	15.25
E	3.75	4.25
F	0.26	0.5
G	0.68	0.94
H	13.4	13.9
I	2.35	2.65
J	4.38	4.78
K	1.14	1.4
L	2.37	2.79

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