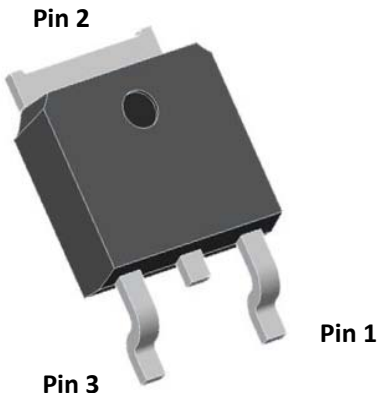
Ultra-Fast Recovery Diodes 5A*2 FRED





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-252
  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	MUR1040CD
Device marking code			MUR1040CD
Repetitive Peak Reverse Voltage	V_{RRM}	V	400
Average Rectified Output Current @60Hz sine wave, R-load, T_C(FIG.1)	I_O	A	10
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T_j=25℃	I_{FSM}	A	50
Current Squared Time @1ms≤t≤8.3ms T_j=25℃,	I^2t	A^2s	10
Storage Temperature	Tstg	℃	-55 ~ +175
Junction Temperature	Tj	℃	-55 ~ +175
Typical Junction capacitance @4V,1MHz	Cj	pF	50

■Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Instantaneous forward voltage drop per diode	V_{FM}	V	I_{FM}=5.0A @Tj=25℃		-	1.15	1.25
			I_{FM}=5.0A @Tj=150℃			0.9	1
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℃		-	25	100
Reverse Recovery Time	Trr	ns	I_F=0.5A I_{RM}=1A I_{RR}=0.25A Tj=25℃		-	25	35
			Tj=25℃	I_F=5A di/dt=-200A/us V_{RM}=200V	-	29.5	-
			Tj=125℃		-	46.6	-
Peak recovery current	I_{RRM}	A	Tj=25℃		-	3.49	-
			Tj=125℃		-	5.71	-
Reverse recovery charge	Qrr	nC	Tj=25℃		-	55.22	-
			Tj=125℃		-	130	-

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

PARAMETER		SYMBOL	UNIT	MUR1040CD
Thermal Resistance	Between junction and case	$R_{\theta J-C}$	℃/W	5.0
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
MUR1040CD	Approximate 0.32	2500	2500	25000	Reel

■Characteristics (Typical)

FIG1:Io -Tc Curve

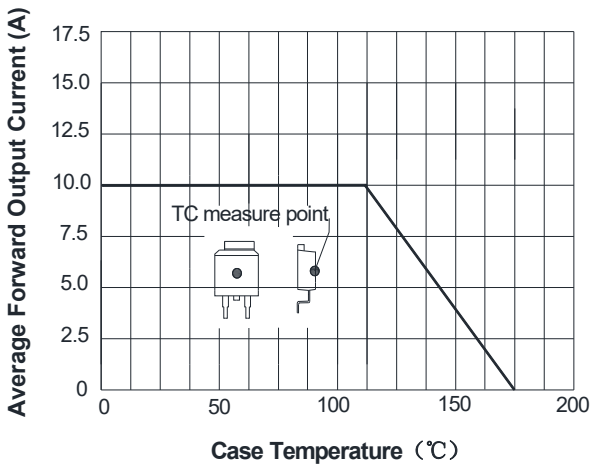


FIG2:Surge Forward Current Capability

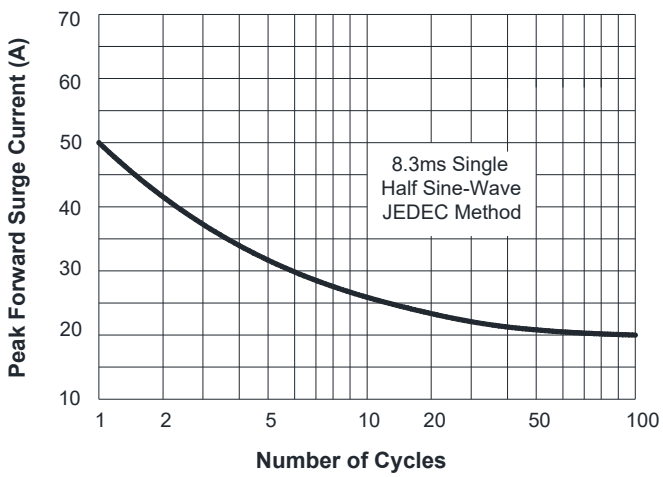


FIG3: Forward Voltage

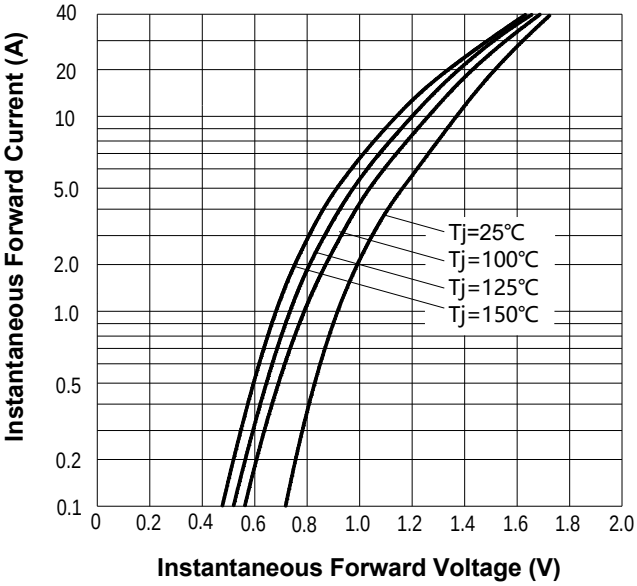


FIG.4: Instantaneous Reverse Characteristics

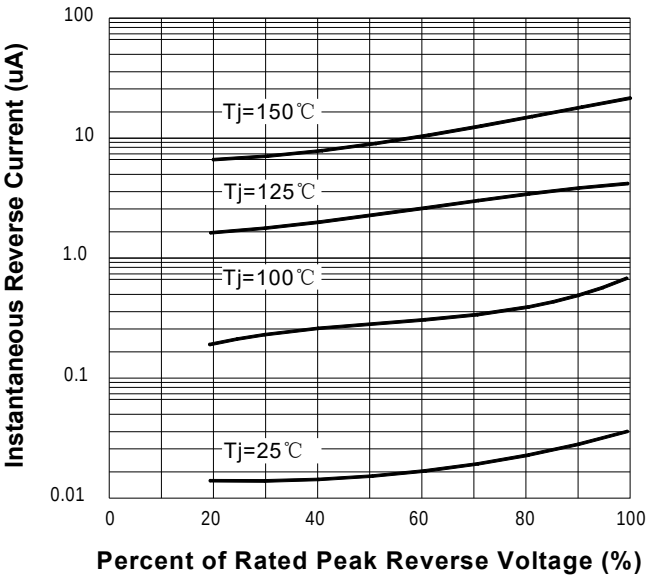
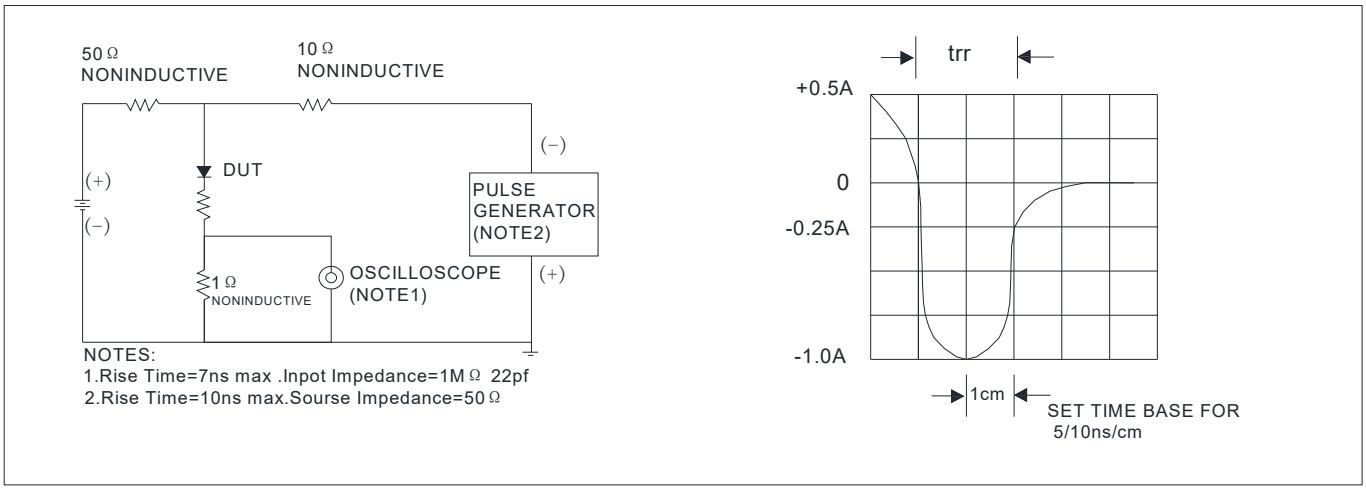
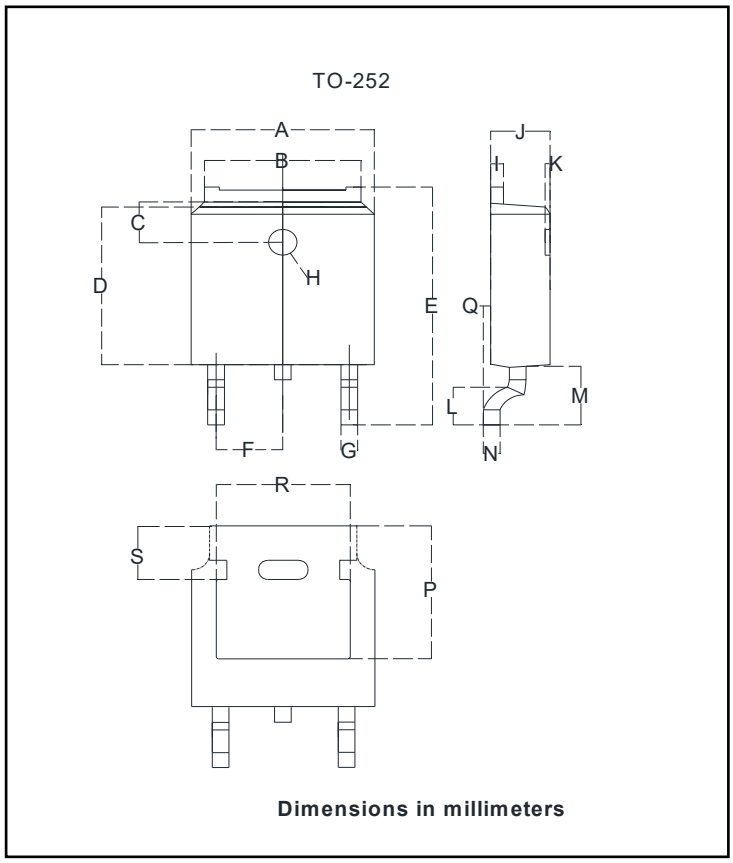


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

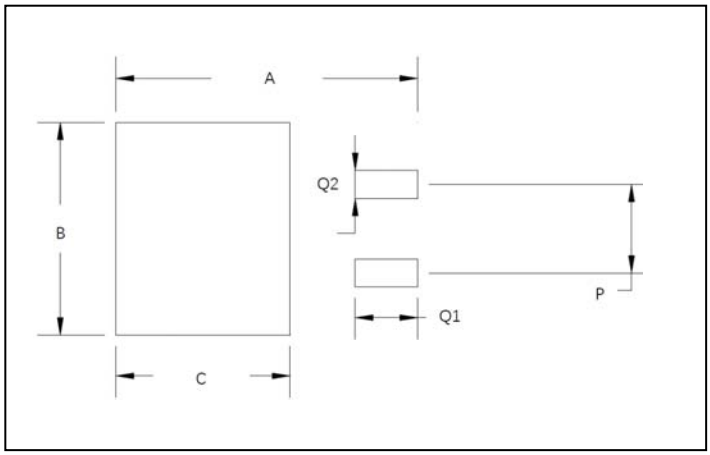


■Outline Dimensions



TO-252		
Dim	Min	Max
A	6.500	6.700
B	5.100	5.460
C	1.400	1.800
D	6.000	6.200
E	10.000	10.400
F	2.166	2.366
G	0.660	0.860
H	Φ1.050	Φ1.350
I	0.460	0.580
J	2.200	2.400
K	0	0.300
L	0.890	2.290
M	2.730	3.080
N	0.430	0.580
P	5.15	5.45
Q	0	0.2
R	4.50	5.10
S	1.60	2.40

■ Suggested Pad Layout



Dim	Millimeters
A	11.4
B	6.74
C	6.23
P	4.56
Q1	2.28
Q2	1.52

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