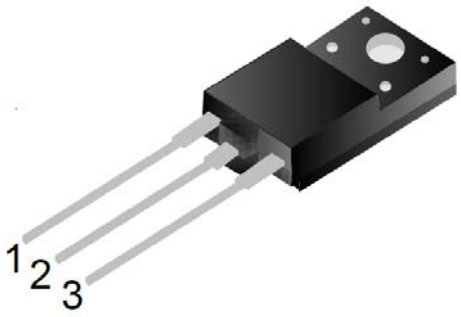
Ultra-Fast Recovery Diodes 10A*2 FRED





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-3PF
  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	MUR2020FPT
Device marking code			MUR2020FPT
Repetitive Peak Reverse Voltage	V_{RRM}	V	200
Average Rectified Output Current @60Hz sine wave, R-load, T_C(FIG.1)	I_O	A	20
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T_j=25℃	I_{FSM}	A	120
Current Squared Time @1ms≤t≤8.3ms Tj=25℃,	I^2t	A^2s	60
Single Pulse Avalanche Energy @ Tp=40uS, Tj=25℃,L=15mH	EAS	mJ	245
Storage Temperature	Tstg	℃	-55 ~ +175
Junction Temperature	Tj	℃	-55 ~ +175
Typical Junction capacitance @4V,1MHz	Cj	pF	150

■Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Instantaneous forward voltage drop per diode	V_{FM}	V	I_{FM}=10.0A @Tj=25℃		-	0.90	1.0
			I_{FM}=10.0A @Tj=150℃			0.78	0.9
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=10A di/dt=-200A/us V_{RM}=100V	-	20	-
			Tj=125℃		-	35	-
Peak recovery current	I_{RRM}	A	Tj=25℃		-	3.0	-
			Tj=125℃		-	5.5	-
Reverse recovery charge	Qrr	nC	Tj=25℃		-	30	-
			Tj=125℃		-	100	-

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

PARAMETER		SYMBOL	UNIT	MUR2020FPT
Thermal Resistance	Between junction and case	RθJ-C	℃/W	3

■Characteristics (Typical)

FIG1:Io -Tc Curve

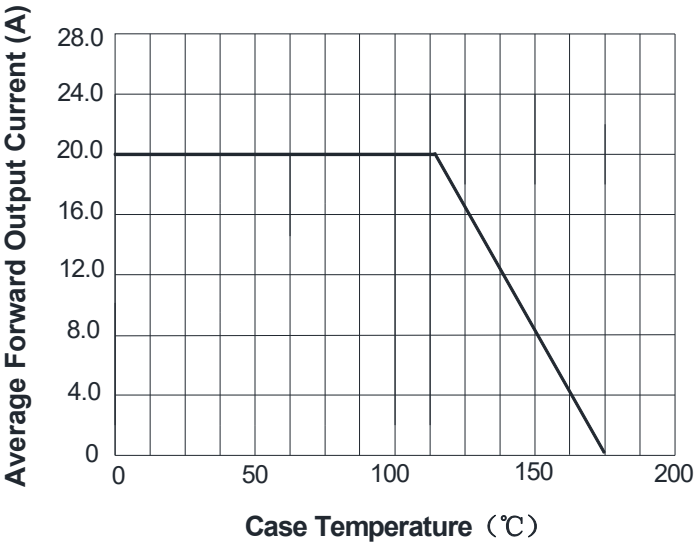


FIG2:Surge Forward Current Capability

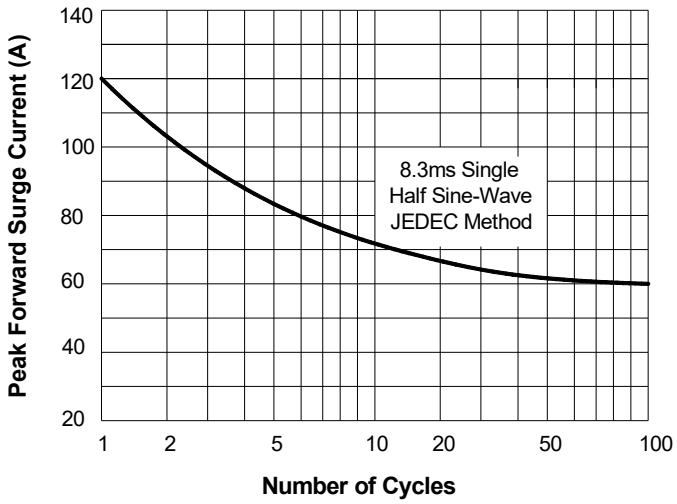


FIG3: Forward Voltage

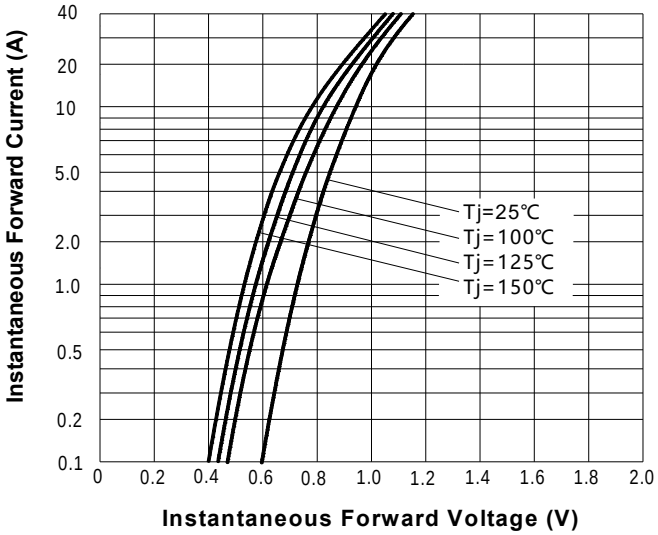


FIG.4: Instantaneous Reverse Characteristics

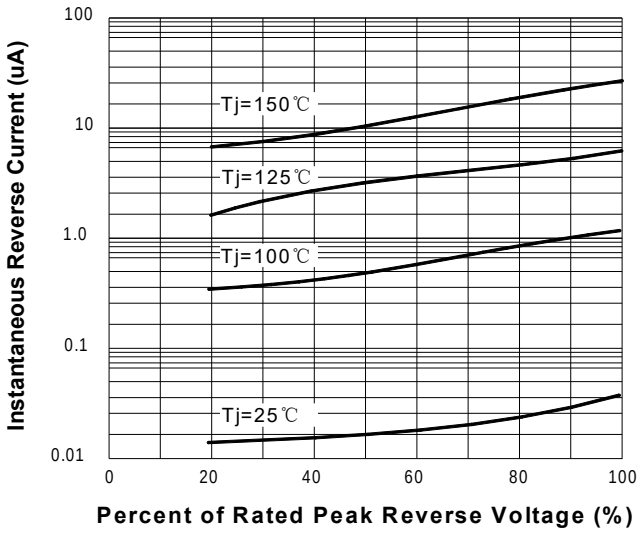
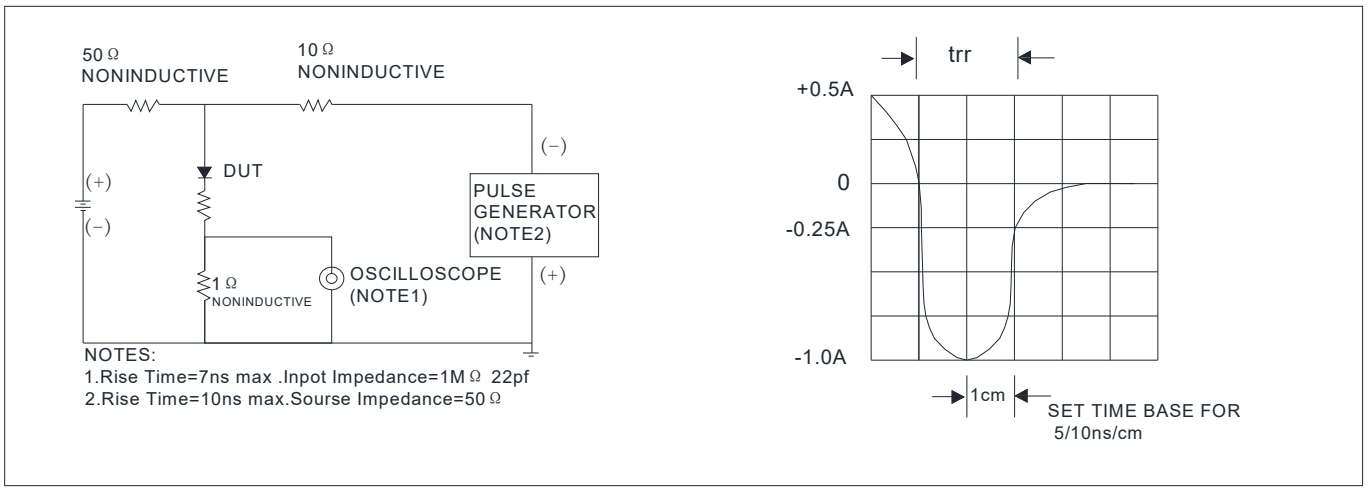
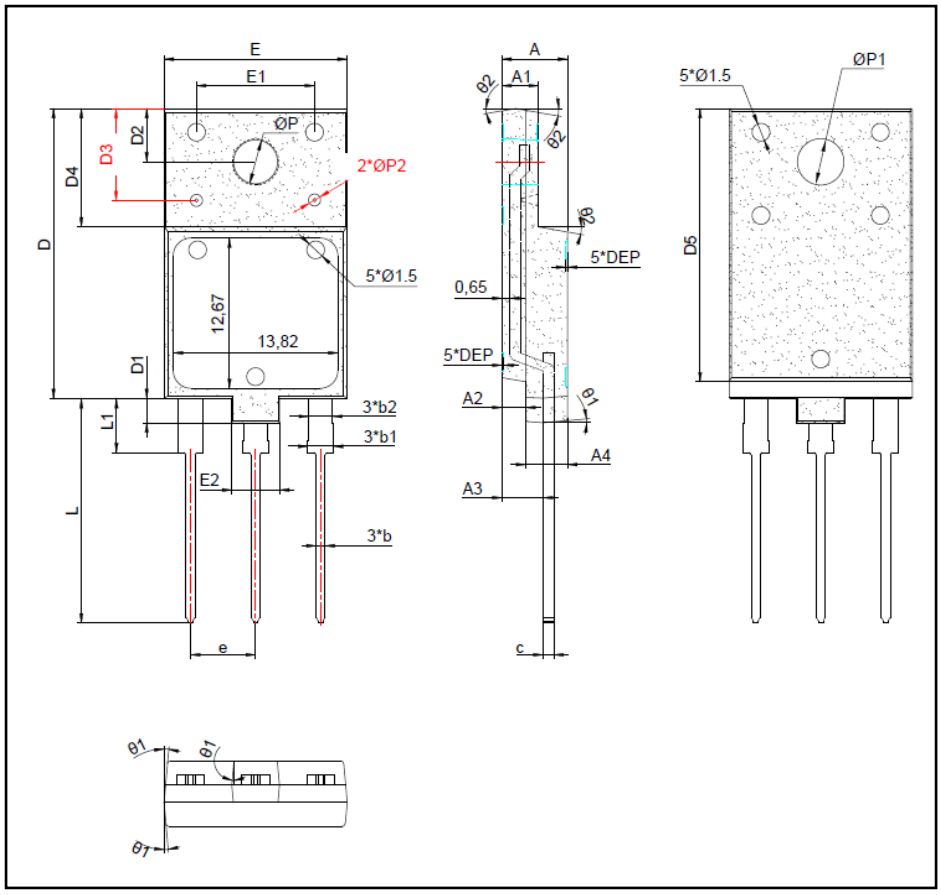


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



■Outline Dimensions



TO-3PF		
Dim	Min	Max
A	5.30	5.70
A1	2.85	3.25
A2	1.85	2.15
A3	3.30	3.60
A4	3.35	3.65
b	0.68	0.83
b1	2.06	3.26
b2	1.92	2.08
c	0.82	0.98
D	24.20	24.60
D1	1.85	2.25
D2	3.35	4.65
D3	7.55	7.85
D4	9.76	10.16
D5	22.75	23.25
E	15.15	15.55
E1	9.75	10.25
E2	3.85	4.15
e	5.40	5.50
L	18.70	19.10
L1	4.40	4.70
ØP	3.57	3.77
ØP1	3.80	4.00
ØP2	0.90	1.10
θ 1	2°	8°
θ 2	7°	13°
DEP	0.00	0.15

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