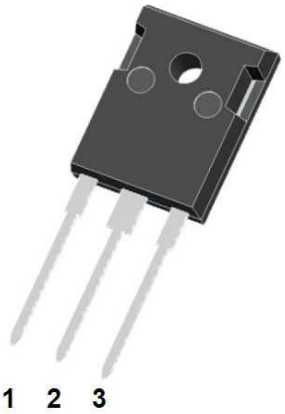
MUR4040PT

Ultra-Fast Recovery Diodes20A*2 FRD Pt

Features

- Adopt FRD 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



TO-247-3L

Typical Applications

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

Mechanical Data

- **Package**: TO-247-3L
  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

TYPE	V_{RSM} V	V_{RRM} V
MUR4040PT	400	400

■Maximum Ratings (Tj=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MUR4040PT
Device marking code			MUR4040PT
Repetitive Peak Reverse Voltage	V_{RRM}	V	400
Average Rectified Output Current @60Hz sine wave, R-load, Tc(FIG.1)	I_O	A	40
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, Tj=25℃	I_{FSM}	A	360
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	86
Storage Temperature	Tstg	℃	-55 ~ +175
Junction Temperature	Tj	℃	-55 ~ +175
Typical Junction capacitance @4V,1MHz	Cj	pF	50

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■Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Instantaneous forward voltage drop per diode	V_{FM}	V	I_{FM}=20.0A @Tj=25℃		-	1.15	1.30
			I_{FM}=20.0A @Tj=150℃			0.9	1.0
DC reverse current at rated DC blocking voltage per diode	I_{RRM1}	uA	VRM=VRRM Tj=25℃		-	-	5
	I_{RRM2}		V_{RM}=V_{RRM} Tj=150℃		-	40	100
Reverse Recovery Time	Trr	ns	I_F=0.5A I_{RM}=1A I_{RR}=0.25A Tj=25℃		-	30	35
			Tj=25℃	I_F=20A di/dt=-200A/us V_{RM}=200V	-	65	-
			Tj=125℃		-	100	-
Peak recovery current	I_{RRM}	A	Tj=25℃		-	4.5	-
			Tj=125℃		-	8.0	-
Reverse recovery charge	Qrr	nC	Tj=25℃		-	155	-
			Tj=125℃		-	385	-

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

PARAMETER		SYMBOL	UNIT	MUR4040PT
Thermal Resistance	Between junction and case	RθJ-C	℃/W	1.0
	Between junction and Air	RθJ-A	℃/W	50

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■Characteristics (Typical)

FIG1:Io -Tc Curve

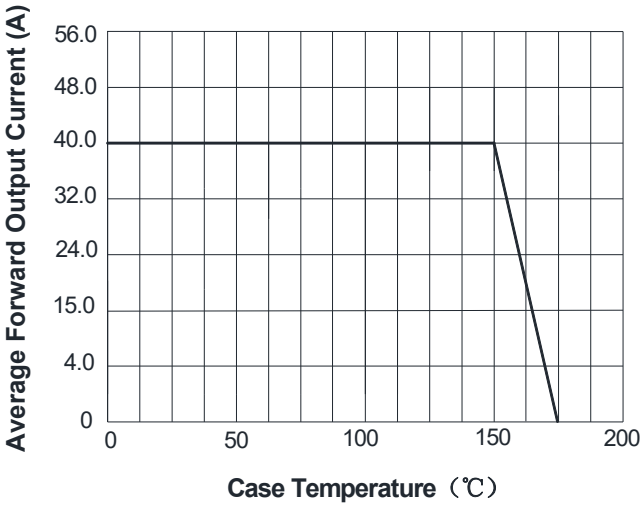


FIG2:Surge Forward Current Capability

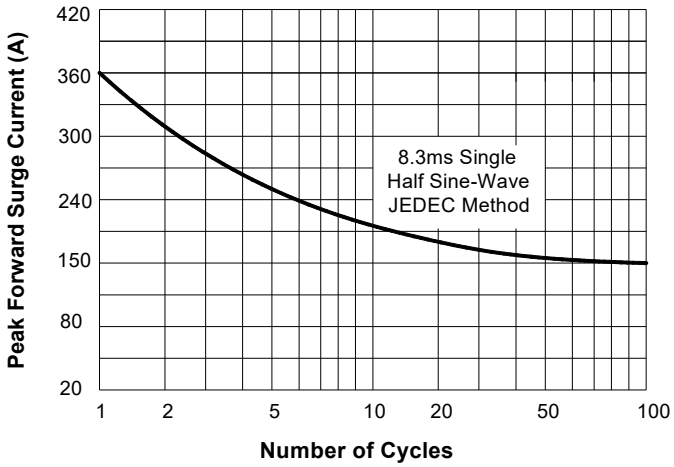


FIG3: Forward Voltage

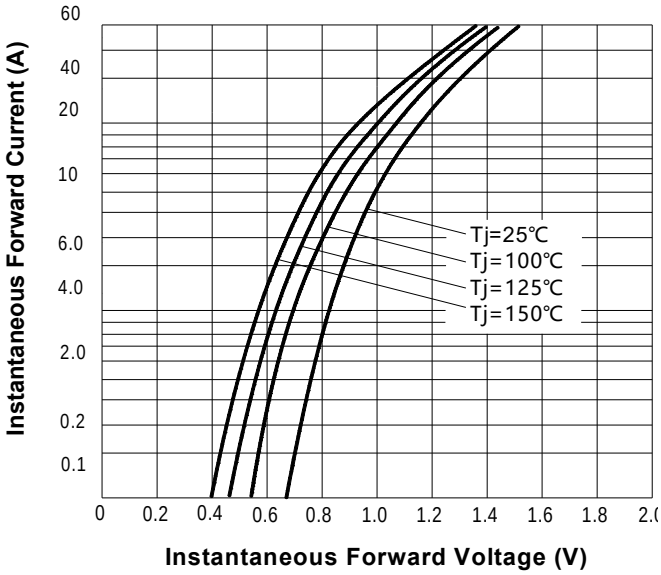


FIG.4: Instantaneous Reverse Characteristics

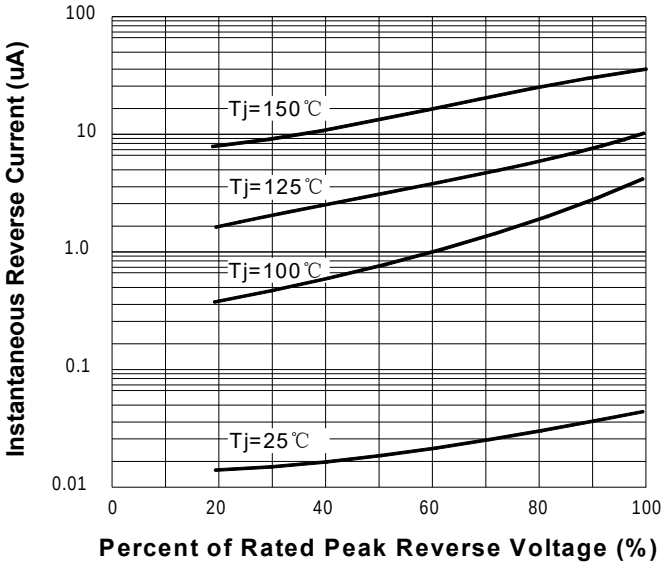
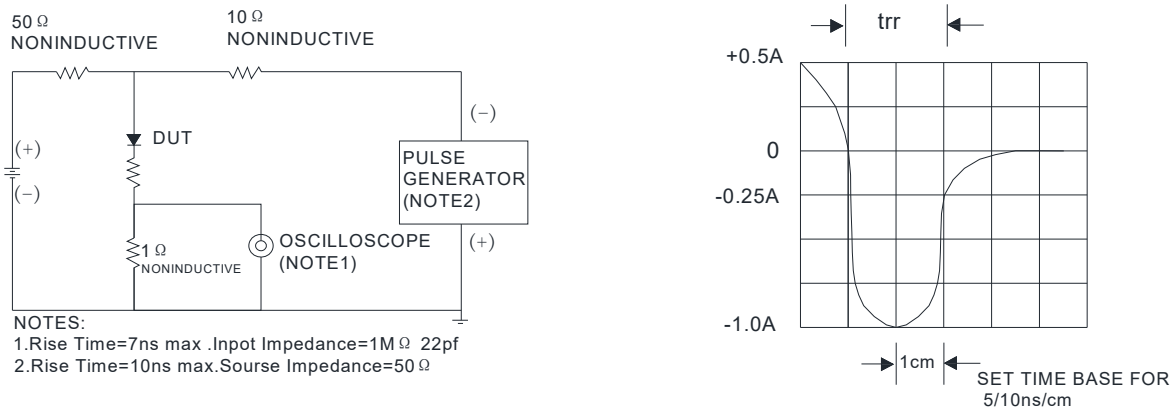


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



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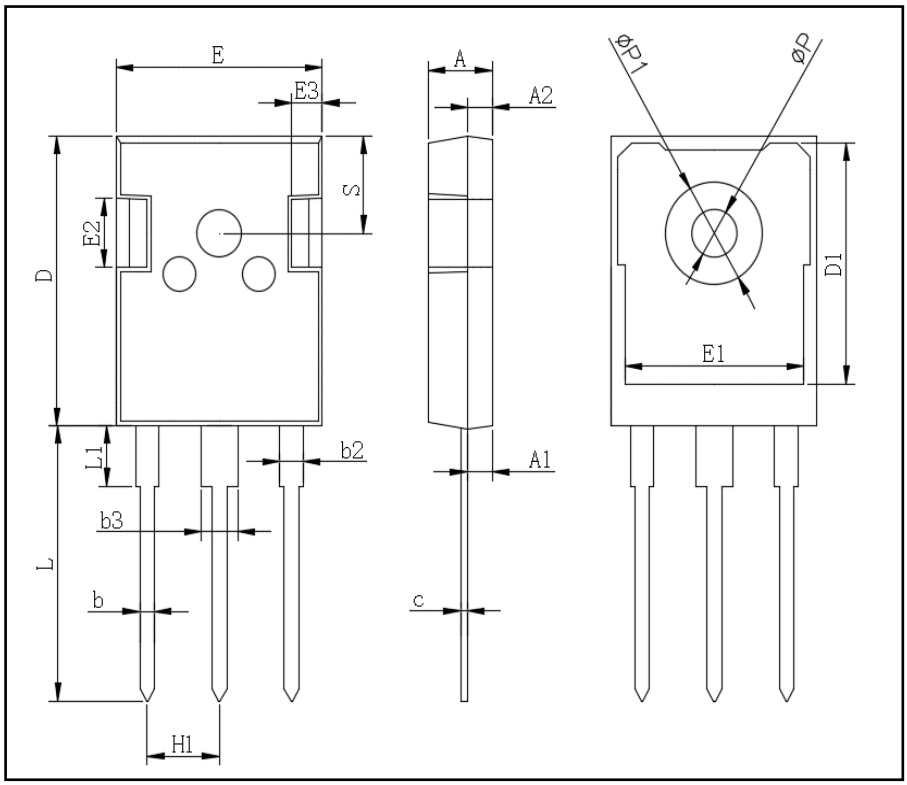
■Outline Dimensions



TO-247-3L		
Dim	Min	Max
A	4.80	5.20
A1	2.21	2.61
A2	1.85	2.15
b	1.0	1.4
b2	1.91	2.21
C	0.5	0.7
D	20.70	21.30
D1	16.25	16.85
E	15.50	16.10
E1	13.0	13.6
E2	4.80	5.20
E3	2.30	2.70
L	19.62	20.22
L1	-	4.30
ΦP	3.40	3.80
ΦP1	-	7.30
S	6.15TYP	
H1	5.44TYP	
b3	2.80	3.20

Packge	Packing	Box Size L×W×H(mm)	Quatity(pcs/box)	Carton Size L×W×H(mm)	Quatity(pcs/carton)
TO-247	30pcs/Tube	570×155×50	450	580×340×125	1800