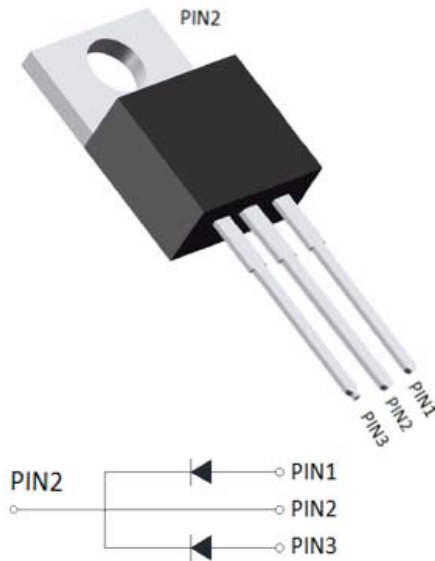


## Ultra-Fast Recovery Rectifier Diodes



### Features

- High frequency operation
- High surge forward current capability
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Adopt GPP chip
- Passivation for enhanced ruggedness and long term reliability
- Solder dip 275 °C max. 7 s, per JESD 22-B106

### 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 (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MUR2010CT-B1-0000S	MUR2015CT-B1-0000S	MUR2020CT-B1-0000S	MUR2040CT-B1-0000S	MUR2060CT-B1-0000S
Device Marking Code			MUR2010CT	MUR2015CT	MUR2020CT	MUR2040CT	MUR2060CT
Repetitive Peak Reverse Voltage	VRRM	V	100	150	200	400	600
Average Rectified Output Current @60Hz half sine-wave, R-load, T <sub>c</sub> (FIG.1)	I <sub>o</sub>	A	20				
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T <sub>a</sub> =25°C	IFSM	A	125				
Current Squared Time @1ms≤t≤8.3ms T <sub>j</sub> =25°C, Rating of per diode	I <sup>2</sup> t	A <sup>2</sup> s	65				
Storage Temperature	T <sub>stg</sub>	°C	-55 ~ +150				
Junction Temperature	T <sub>j</sub>	°C	-55 ~ +150				

### ■Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MUR2010CT-B1-0000S	MUR2015CT-B1-0000S	MUR2020CT-B1-0000S	MUR2040CT-B1-0000S	MUR2060CT-B1-0000S
Maximum instantaneous forward voltage drop per diode	VFM	V	I <sub>FM</sub> =10.0A	0.975			1.3	1.5
Maximum DC reverse current at rated DC blocking voltage per diode	I <sub>RRM1</sub>	uA	V <sub>RM</sub> =V <sub>VRRM</sub> T <sub>a</sub> =25°C	10				
	I <sub>RRM2</sub>		V <sub>RM</sub> =V <sub>VRRM</sub> T <sub>a</sub> =125°C	500				
Reverse Recovery Time	T <sub>rr</sub>	ns	I <sub>F</sub> =0.5A I <sub>RM</sub> =1A I <sub>RR</sub> =0.25A	50				

### ■Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MUR2010CT-B1-0000S	MUR2015CT-B1-0000S	MUR2020CT-B1-0000S	MUR2040CT-B1-0000S	MUR2060CT-B1-0000S
Thermal Resistance Between junction and case	R <sub>θj-c</sub>	°C/W	2.0				



# MUR2010CT THRU MUR2060CT-B1-0000S

## Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MUR2010CT THRU MUR2060CT-B1-0000S	Approximate 1.90	50	1000	5000	Tube

## Characteristics (Typical)

FIG1:  $I_o$  -  $T_c$  Curve

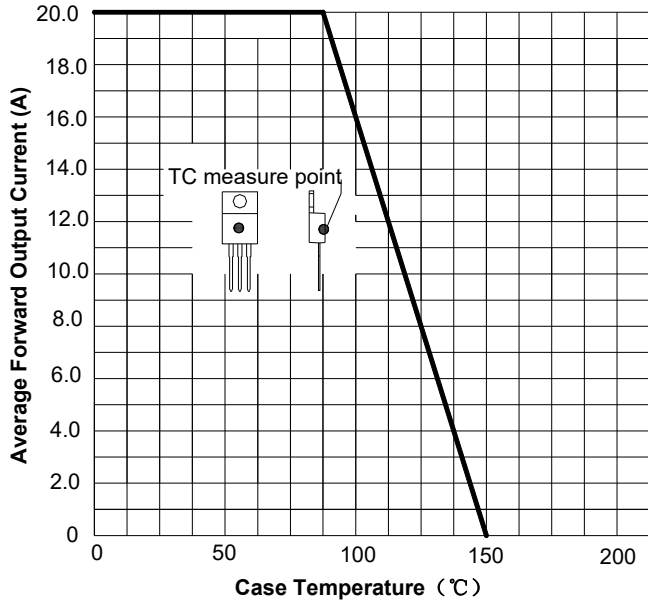


FIG2: Surge Forward Current Capability

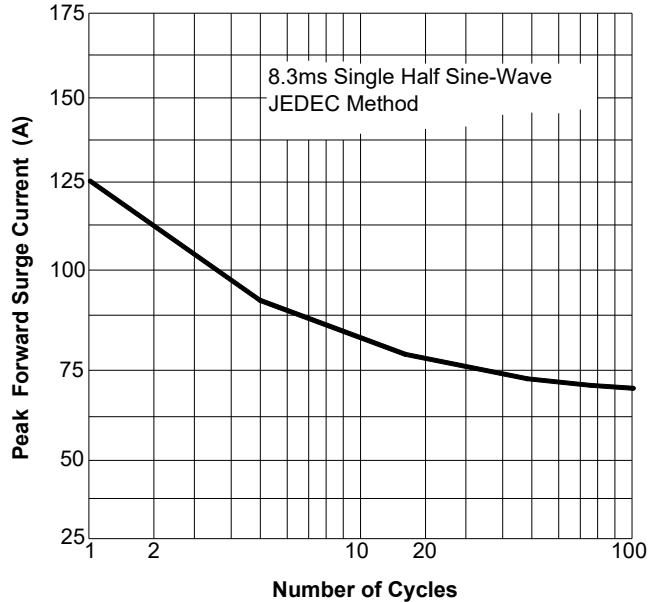


FIG3: Forward Voltage

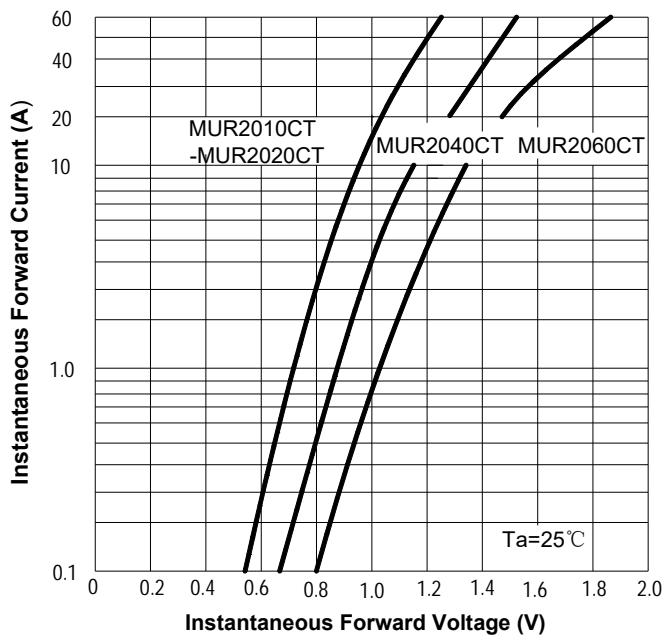
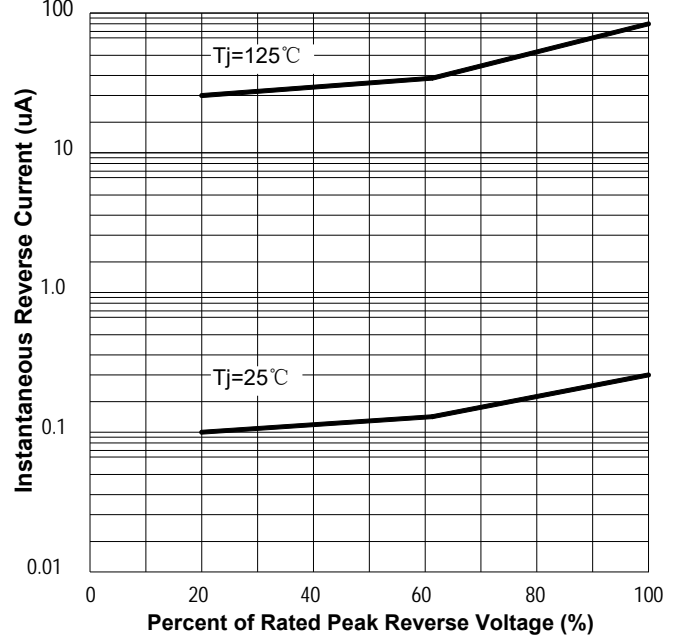


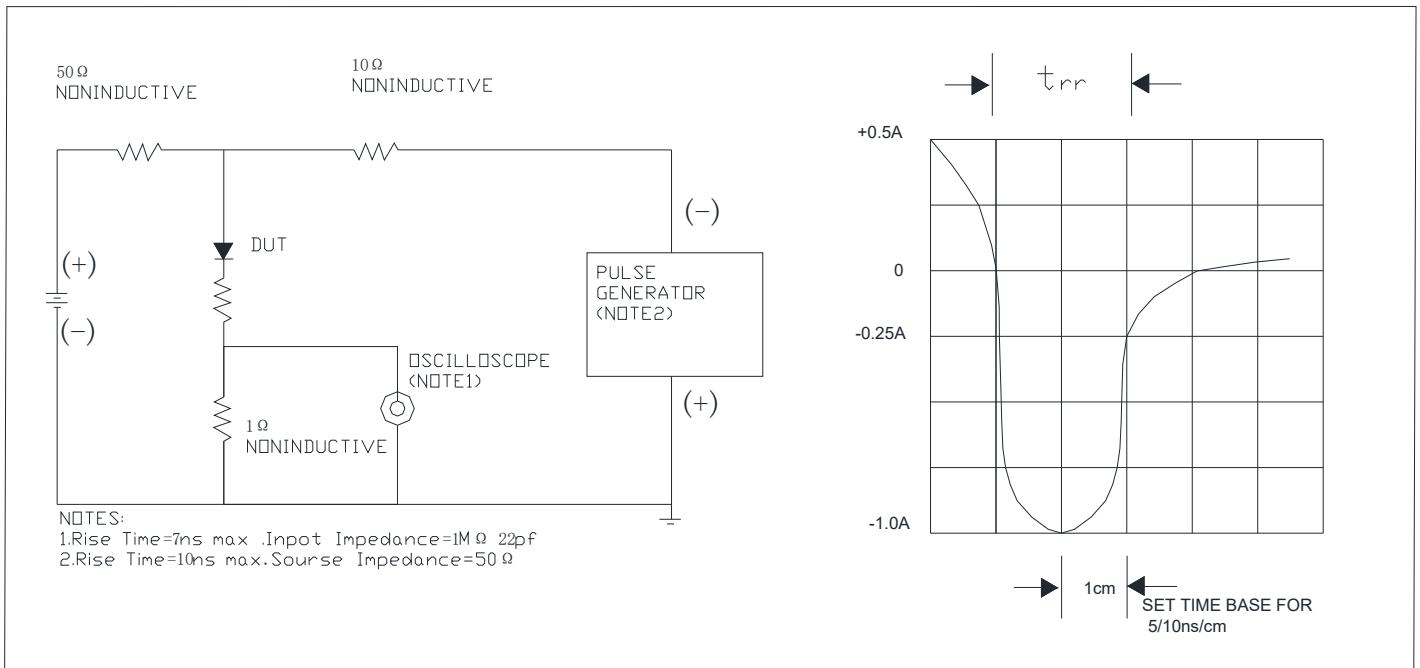
FIG4: Typical Reverse Characteristics



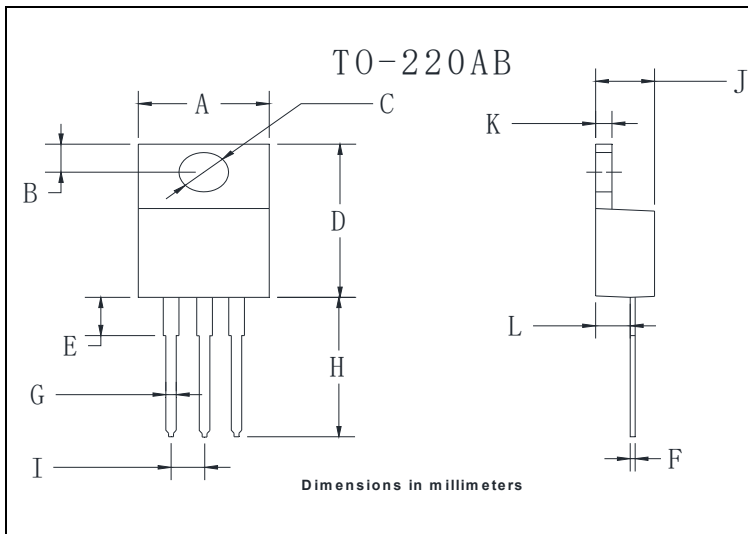


# MUR2010CT THRU MUR2060CT-B1-0000S

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



## Outline Dimensions



TO-220AB		
Dim	Min	Max
A	9.5	10.9
B	2.22	3.27
C	3.34	4.31
D	14.5	15.5
E	3.16	4.46
F	0.28	0.64
G	0.68	0.94
H	13.06	14.62
I	2.01	3.07
J	4.04	5.1
K	1.14	1.4
L	2.14	3.19



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