

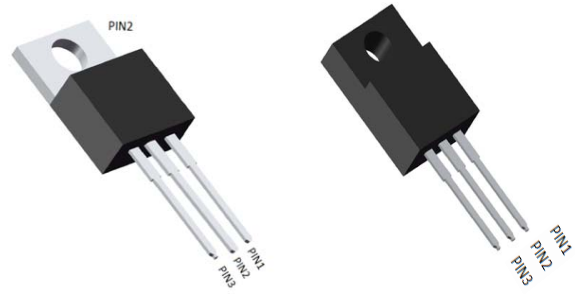


### Features

- 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

### Typical Applications

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



### Mechanical Data

- **Package:** TO-220AB ITO-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 (Ta=25°C Unless otherwise specified)

TYPE	V <sub>RSM</sub> V	V <sub>RRM</sub> V
MUR2020CT	200	200
MUR2020FCT	200	200

Symbol	Test Conditions	Maximum Ratings	Unit
I <sub>FRMS</sub> I <sub>FAVM</sub>	T <sub>C</sub> =150°C; rectangular, d=0.5	38 2 x 10	A
I <sub>FSM</sub>	T <sub>VJ</sub> =45°C; t <sub>p</sub> =10ms (50Hz), sine	200	A
E <sub>AS</sub>	T <sub>VJ</sub> =25°C; non-repetitive; I <sub>AS</sub> =2A; L=180uH	0.5	mJ
I <sub>AR</sub>	V <sub>A</sub> =1.5·V <sub>R</sub> typ.; f=10kHz; repetitive	0.2	A
T <sub>VJ</sub> T <sub>VJM</sub> T <sub>stg</sub>		-55...+175 175 -55...+175	°C
P <sub>tot</sub>	T <sub>C</sub> =25°C	60	W
M <sub>d</sub>	mounting torque	0.4...0.6	Nm
Weight	typical	2	g

Symbol	Test Conditions	Characteristic Values		Unit
		typ.	max.	
I <sub>R</sub>	T <sub>VJ</sub> =25°C; V <sub>R</sub> =V <sub>RRM</sub>		50	uA
V <sub>F</sub>	I <sub>F</sub> =10A; T <sub>VJ</sub> =25°C	0.98	1.15	V
R <sub>thJC</sub> R <sub>thCH</sub>		0.5	2.5	K/W
t <sub>rr</sub>	I <sub>F</sub> =1A; -di/dt=50A/us; V <sub>R</sub> =30V; T <sub>VJ</sub> =25°C	30	35	ns
I <sub>RM</sub>	V <sub>R</sub> =100V; I <sub>F</sub> =10A; -di <sub>F</sub> /dt=100A/us; T <sub>VJ</sub> =100°C		4.1	A



## ■ Characteristics (Typical)

FIG1: I<sub>o</sub> -T<sub>c</sub> Curve

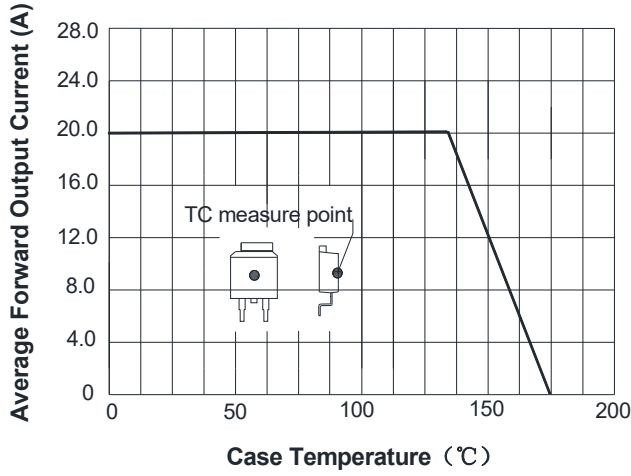
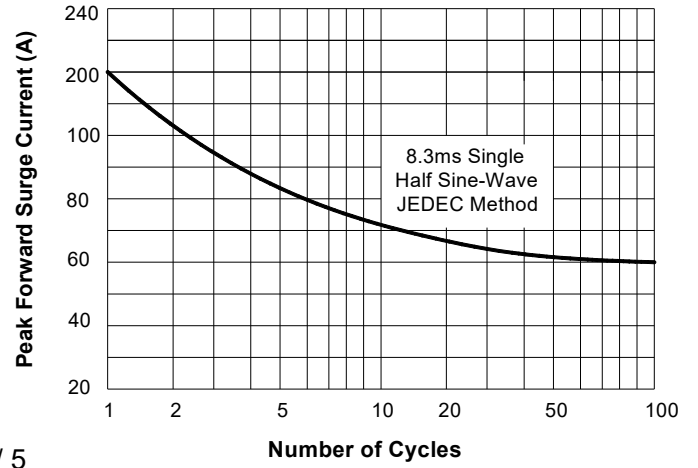


FIG2: Surge Forward Current Capability



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FIG3: Forward Voltage

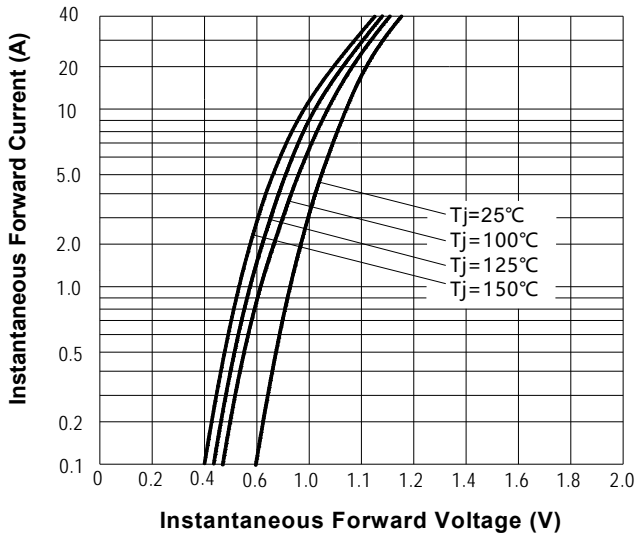


FIG4: Instantaneous Reverse Characteristics

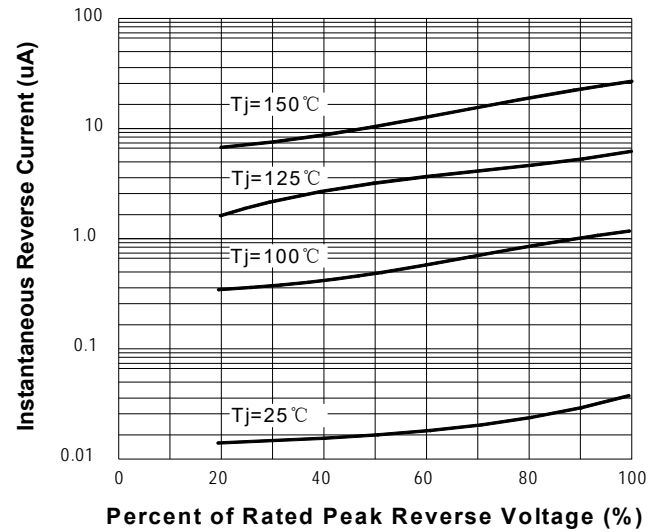
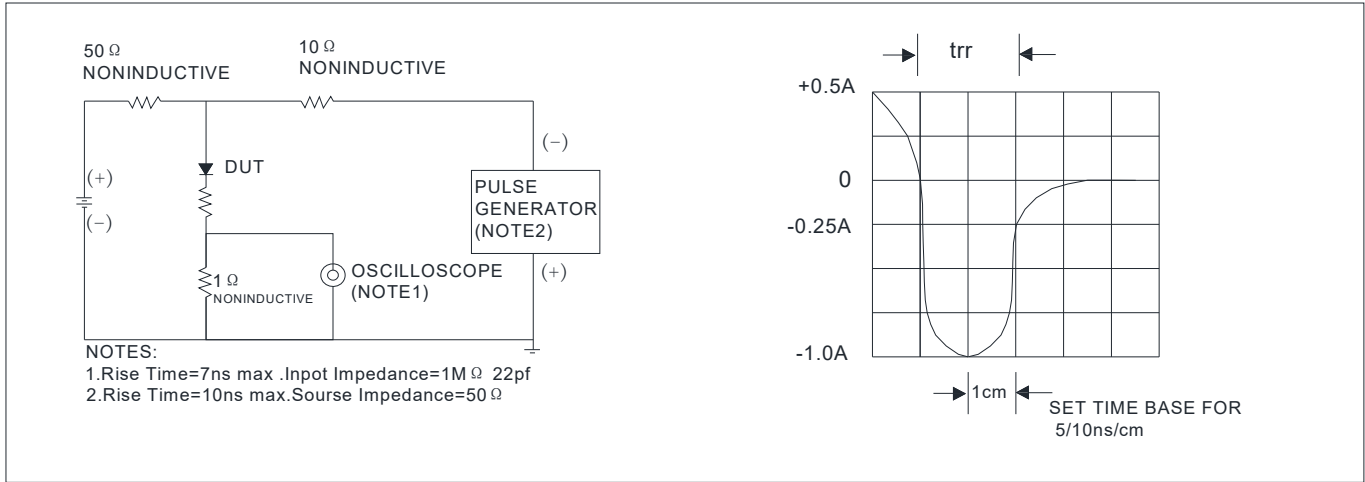


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



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

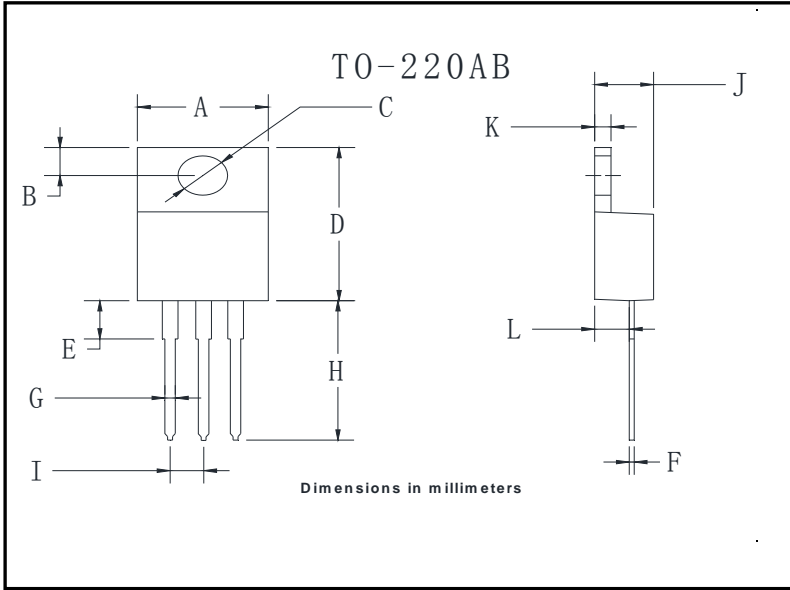
PARAMETER		SYMBOL	UNIT	MUR2020CT/MUR2020FCT
Thermal Resistance	Between junction and case	R <sub>θJ-C</sub>	°C/W	4.0
	Between junction and Air	R <sub>θJ-A</sub>	°C/W	50

### ■ Ordering Information (Example)

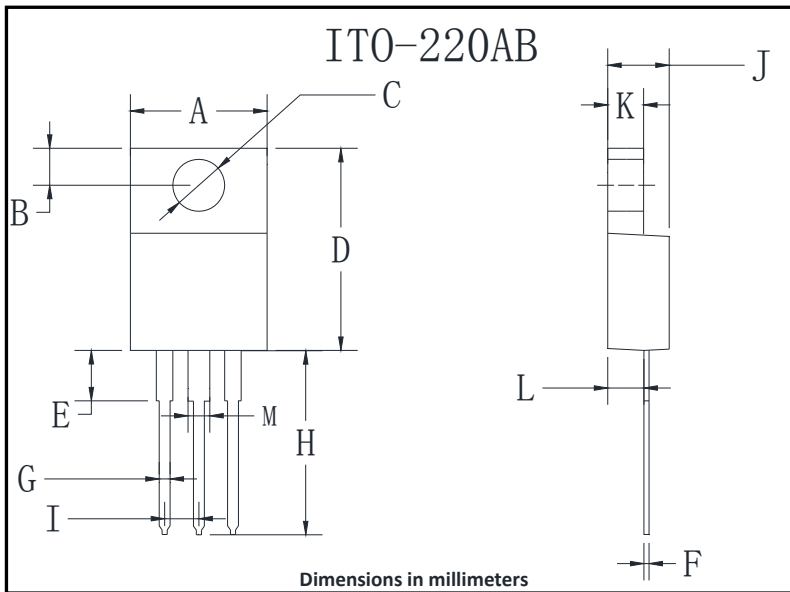
PREFERED P/N	UNIT WEIGHT(g)	MINIIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MUR2020CT/MUR2020FCT	Approximate 1.6	50	1000	5000	Tube



## ■ 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



ITO-220AB		
Dim	Min	Max
A	9.8	10.2
B	2.25	2.75
C	2.95	3.45
D	14.75	15.25
E	3.05	3.95
F	0.45	0.75
G	0.45	0.75
H	13.4	14.2
I	2.35	2.75
J	4.3	4.8
K	2.58	2.82
L	2.58	2.82
M	1.47	1.77

Package	Packing	Box Size L×W×H(mm)	Quantity(pcs/box)	Carton Size L×W×H(mm)	Quantity(pcs/carton)
TO-220AB	50pcs/Tube	558×148×38	1000	565×225×175	5000