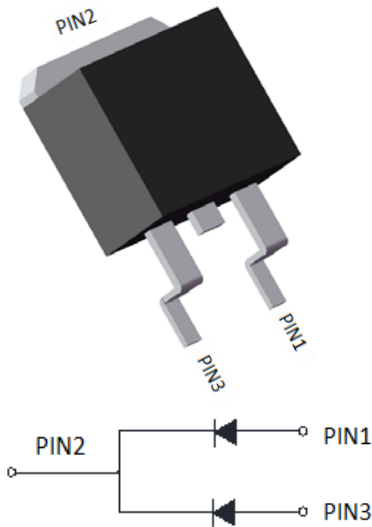


## Ultra-Fast Recovery Diodes 8A\*2 FRED



### 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-263  
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>j</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MURB1660CT
Device marking code			MURB1660CT
Repetitive Peak Reverse Voltage	VRRM	V	600
Average Rectified Output Current @60Hz sine wave, R-load, T <sub>c</sub> (FIG.1)	I <sub>O</sub>	A	16
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T <sub>j</sub> =25°C	I <sub>FSM</sub>	A	100
Current Squared Time @1ms≤t≤8.3ms T <sub>j</sub> =25°C,	I <sup>2</sup> t	A <sup>2</sup> s	41
Storage Temperature	T <sub>stg</sub>	°C	-55 ~ +175
Junction Temperature	T <sub>j</sub>	°C	-55 ~ +175
Typical Junction capacitance @4V,1MHz	C <sub>j</sub>	pF	40



# MURB1660CT

## ■Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
Instantaneous forward voltage drop per diode	$V_{FM}$	V	$I_F=8.0A$ @ $T_j=25^\circ C$	-	1.45	1.6
			$I_F=8.0A$ @ $T_j=150^\circ C$	-	1.15	1.3
DC reverse current at rated DC blocking voltage per diode	$I_{RRM1}$	uA	$V_{RM}=V_{RRM}$ $T_j=25^\circ C$	-	-	5.0
	$I_{RRM2}$		$V_{RM}=V_{RRM}$ $T_j=150^\circ C$	-	40	200
Reverse Recovery Time	$T_{rr}$	ns	$I_F=0.5A$ $I_{RM}=1A$ $I_{RR}=0.25A$ $T_j=25^\circ C$	-	25	35
			$T_j=25^\circ C$	-	57.0	-
			$T_j=125^\circ C$	-	90.5	-
Peak recovery current	$I_{RRM}$	A	$T_j=25^\circ C$	-	3.45	-
			$T_j=125^\circ C$			
Reverse recovery charge	$Q_{rr}$	nC	$T_j=25^\circ C$	-	99.1	-
			$T_j=125^\circ C$	-	262.2	-

## ■Thermal Characteristics ( $T_j=25^\circ C$ Unless otherwise specified )

PARAMETER		SYMBOL	UNIT	MURB1660CT
Thermal Resistance	Between junction and case	$R_{\theta J-C}$	$^\circ C/W$	2.0
Thermal Resistance	Between junction and Air	$R_{\theta J-A}$	$^\circ C/W$	50

## ■Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MURB1660CT	Approximate 1.43	50	2000	8000	Tube
MURB1660CT	Approximate 1.43	1000	2000	10000	Reel

## ■Characteristics (Typical)

FIG1:  $I_o$ - $T_c$  Curve

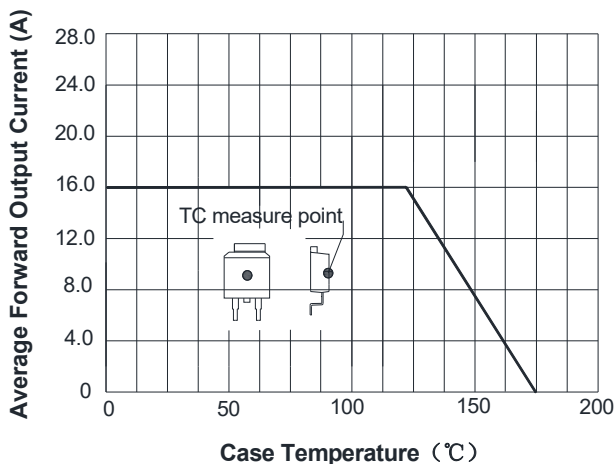
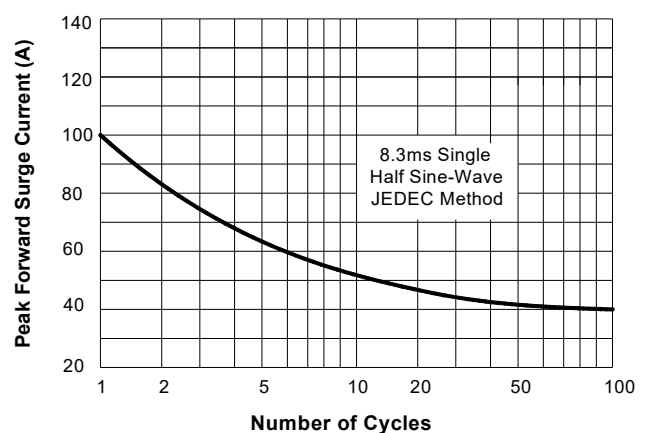
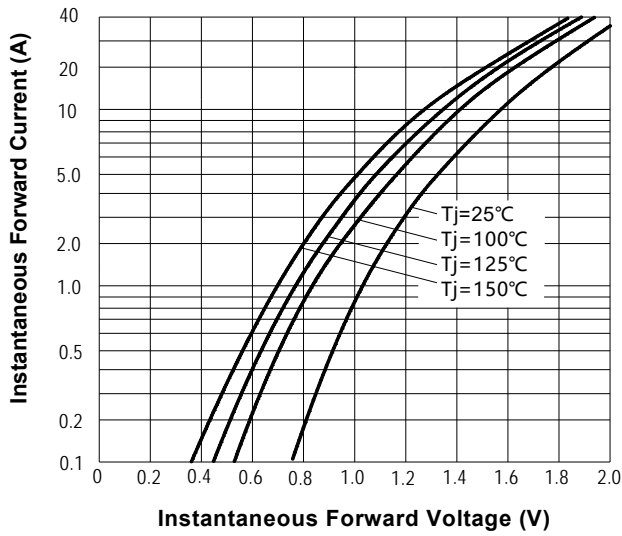


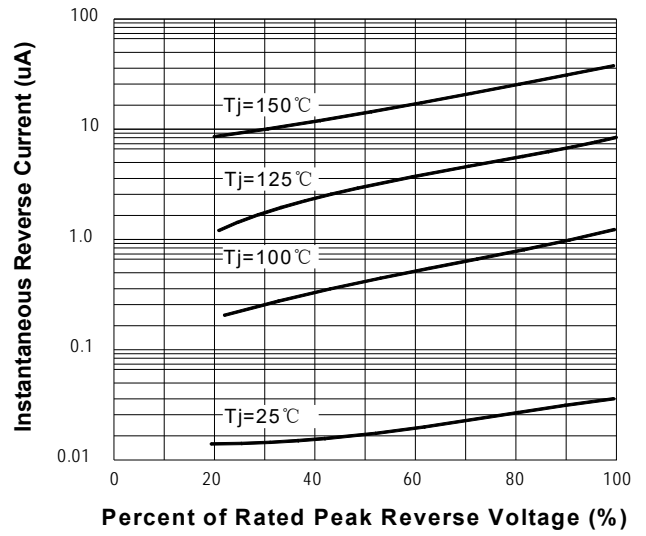
FIG2: Surge Forward Current Capability



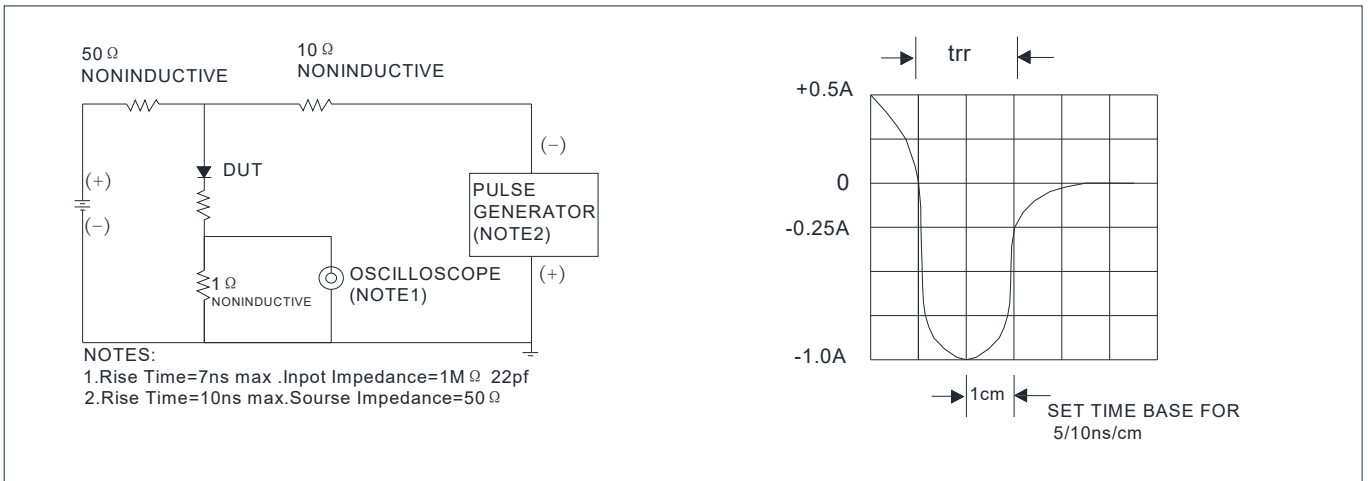
**FIG3: Forward Voltage**



**FIG.4: Instantaneous Reverse Characteristics**



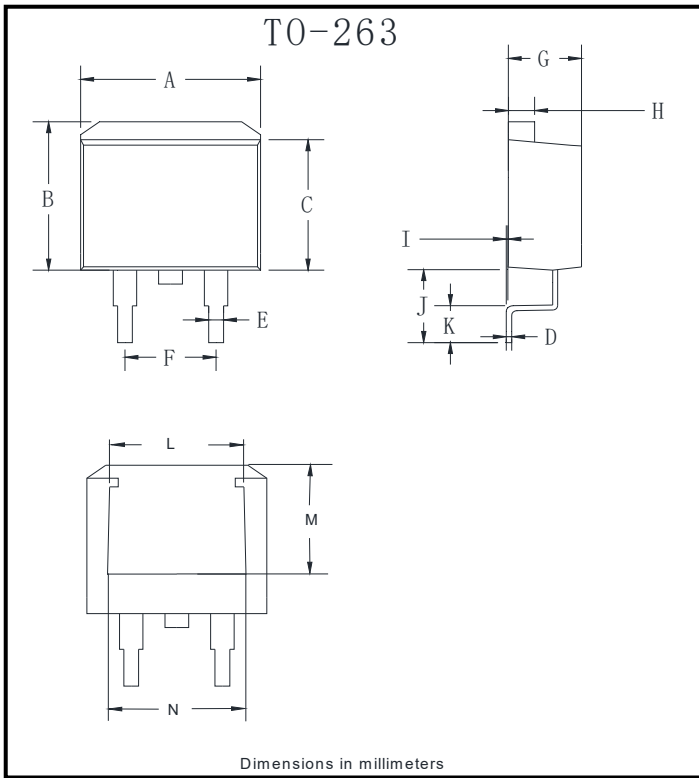
**FIG.5: Diagram of circuit and Testing wave form of reverse recovery time**





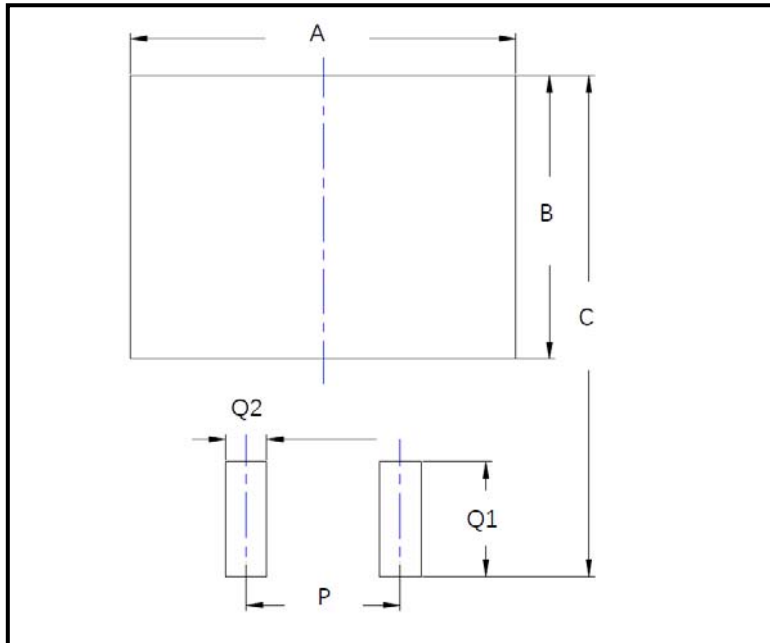
# MURB1660CT

## ■ Outline Dimensions



TO-263		
Dim	Min	Max
A	9.5	11.5
B	9.7	10.5
C	8.4	9.0
D	0.28	0.64
E	0.68	0.94
F	4.55	5.6
G	4.04	5.10
H	1.14	1.4
I	0	0.2
J	4.9	6.05
K	1.79	2.79
L	7.3	7.9
M	6.2	6.8
N	7.6	8.2

## ■ Suggested Pad Layout



Dim	Millimeters
A	12.7
B	9.4
C	16.6
P	5.08
Q1	3.8
Q2	1.35



## MURB1660CT

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