

■ **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-252  
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** ( $T_a=25^{\circ}\text{C}$  Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MUR560D
Device marking code			MUR560D
Repetitive Peak Reverse Voltage	$V_{RRM}$	V	600
Average Rectified Output Current @60Hz sine wave, R-load, $T_c$ (FIG.1)	$I_o$	A	5
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, $T_j=25^{\circ}\text{C}$	$I_{FSM}$	A	50
Current Squared Time @1ms $\leq t \leq$ 8.3ms $T_j=25^{\circ}\text{C}$ ,	$I^2t$	A <sup>2</sup> s	10
Storage Temperature	$T_{stg}$	$^{\circ}\text{C}$	-55 ~ +175
Junction Temperature	$T_j$	$^{\circ}\text{C}$	-55 ~ +175
Typical Junction capacitance @4V,1MHz	$C_j$	pF	20

### ELECTRICAL CHARACTERISTICS (T =25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
Instantaneous forward voltage drop per diode	V <sub>FM</sub>	V	I <sub>FM</sub> =5.0A @T <sub>j</sub> =25°C	-	1.45	1.60
			I <sub>FM</sub> =5.0A @T <sub>j</sub> =150°C	-	1.15	1.30
DC reverse current at rated DC blocking voltage per diode	I <sub>RRM1</sub>	uA	V <sub>RM</sub> =V <sub>RRM</sub> T <sub>j</sub> =25°C	-	-	5
	I <sub>RRM2</sub>		V <sub>RM</sub> =V <sub>RRM</sub> T <sub>j</sub> =150°C	-	35	200
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 T <sub>j</sub> =25°C	-	25	35
			T <sub>j</sub> =25°C	-	50	-
			T <sub>j</sub> =125°C	-	85	-
Peak recovery current	I <sub>RRM</sub>	A	T <sub>j</sub> =25°C	-	3.15	-
			T <sub>j</sub> =125°C	-	5.15	-
Reverse recovery charge	Q <sub>rr</sub>	nC	T <sub>j</sub> =25°C	-	85	-
			T <sub>j</sub> =125°C	-	225	-

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

PARAMETER		SYMBOL	UNIT	MUR560D
Thermal Resistance	Between junction and case	R <sub>θJ-C</sub>	°C/W	5.0
	Between junction and Air	R <sub>θJ-A</sub>	°C/W	50

### PACKAGING INFORMATION

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MUR560D	Approximate 0.31	2500	2500	25000	Reel

### CHARACTERISTICS (TYPICAL)

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

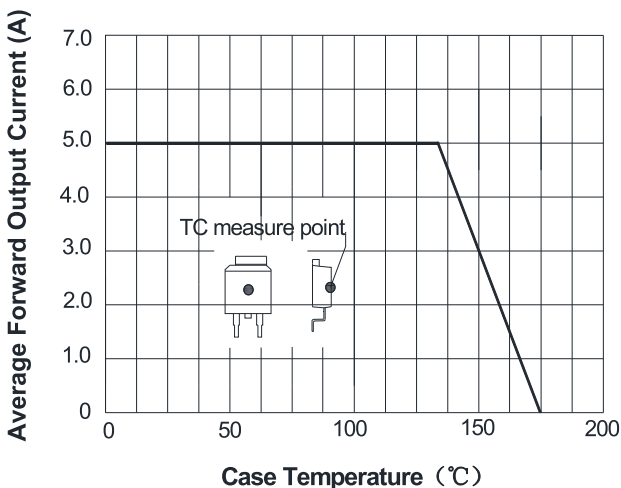
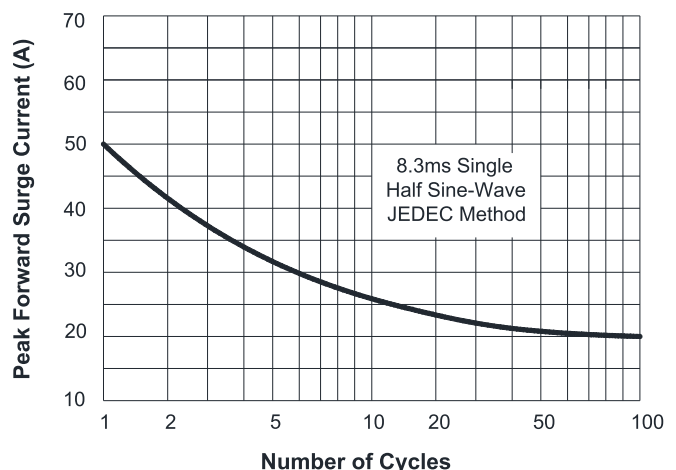
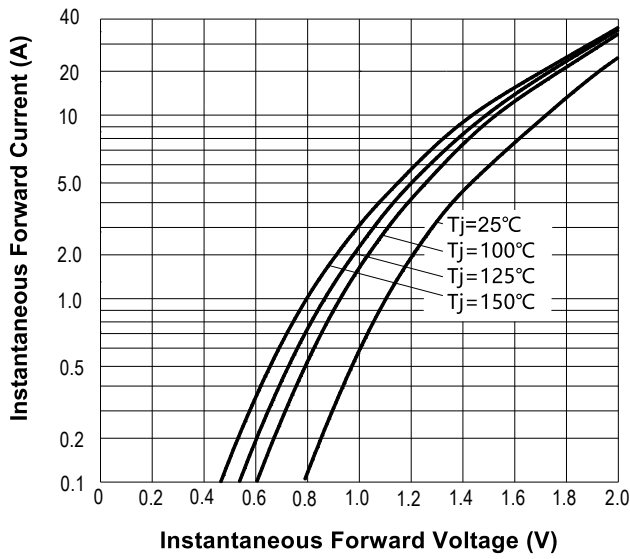


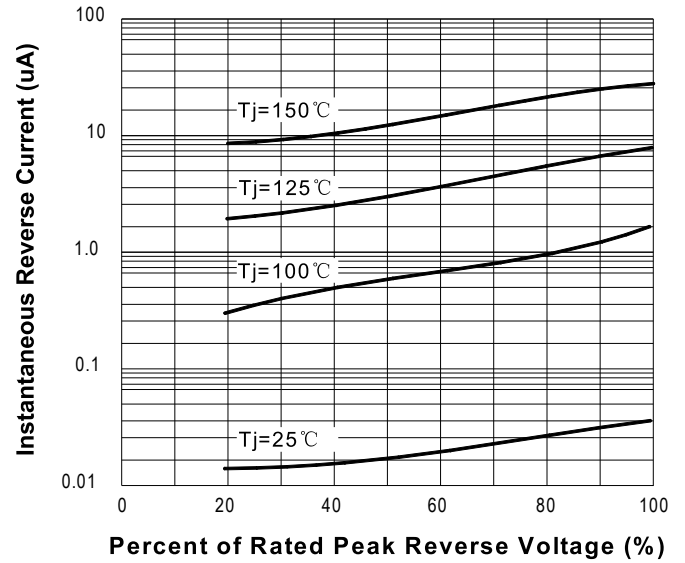
FIG2: Surge Forward Current Capability



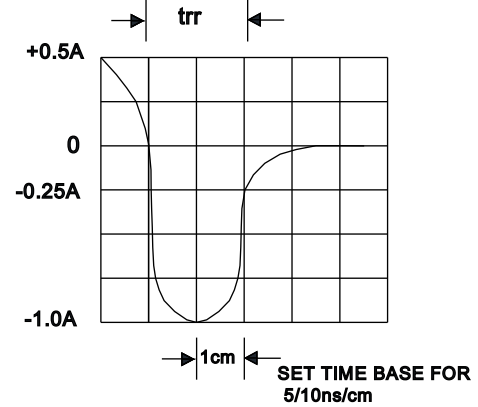
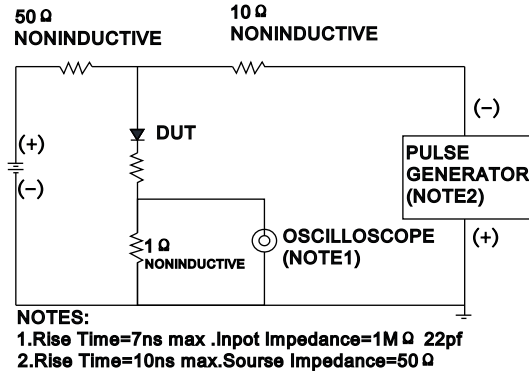
**FIG3: Forward Voltage**



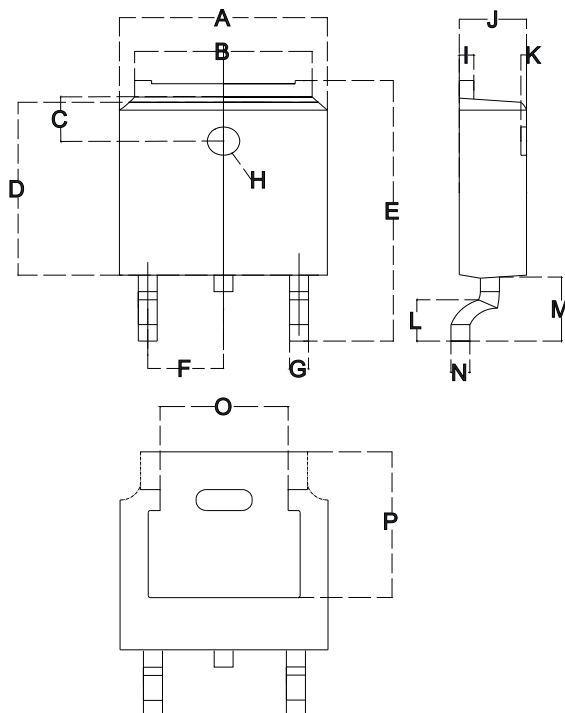
**FIG.4: Instantaneous Reverse Characteristics**



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



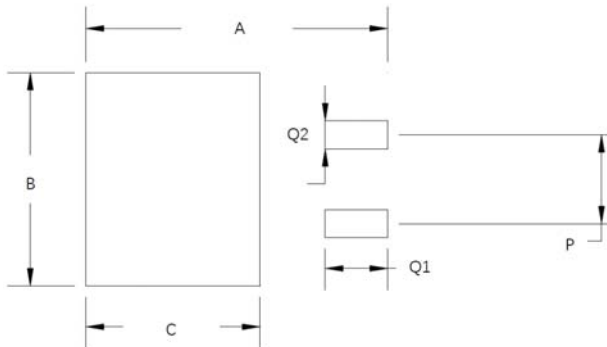
**OUTLINE DIMENSIONS**



Dimensions in millimeters

TO-252		
Dim	Min	Max
A	6.500	6.700
B	5.100	5.460
C	1.400	1.800
D	6.000	6.200
E	10.000	10.400
F	2.166	2.366
G	0.660	0.860
H	$\Phi 1.050$	$\Phi 1.350$
I	0.460	0.580
J	2.200	2.400
K	0	0.300
L	0.890	2.290
M	2.730	3.080
N	0.430	0.580
O	4.20	4.95
P	5.15	5.45

■ **SUGGESTED PAD LAYOUT**



Dim	Millimeters
A	11.4
B	6.74
C	6.23
P	4.56
Q1	2.28
Q2	1.52