MUR810 THRU MUR860

List

MUR810 THRU MUR860

8.0A Super Fast Recovery Rectifiers - 50V-600V

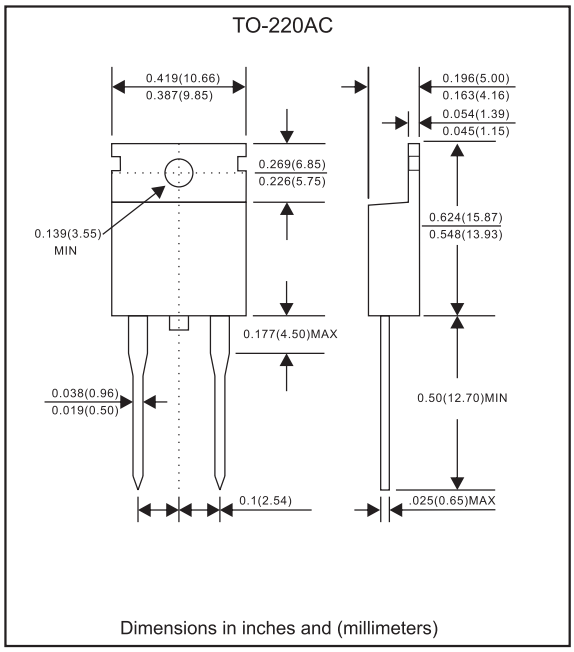
Features

- Low forward voltage, high current capability
- High surge current capability.
- Super fast recovery time for switching mode application.
- Low power loss.
- Glass passivated chip junctions.
- Lead-free parts meet environmental standards of MIL-STD-19500/228

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : JEDEC TO-220AC molded plastic body over passivated chip
- Lead : Axial leads, solderable per MIL-STD-202, Method 208 guranteed
- Polarity: As marked
- Mounting Position : Any
- Weight : Approximated 2.05 gram

Package outline



Maximum ratings (AT T_A=25°C unless otherwise noted)

PARAMETER	SYMBOLS	MUR810	MUR820	MUR840	MUR860	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	100	200	400	600	V
Maximum RMS voltage	V_{RMS}	70	140	280	420	V
Maximum DC blocking voltage	V_{DC}	100	200	400	600	V
Maximum average forward rectified current	I_O	8				A
Peak forward surge current 8.3ms single half sine-wave(JEDEC method)	I_{FSM}	100				A
Operating junction temperature range	T_J	-55 to +150				°C
Storage temperature range	T_{STG}	-65 to +175				°C

Electrical Characteristics (AT T_A=25°C unless otherwise noted)

PARAMETER	SYMBOLS	MUR810	MUR820	MUR840	MUR860	UNIT
Maximum forward voltage at IF=8A	V_F	0.98		1.30	1.70	V
Maximum reverse recovery time per leg (Note 1)	trr	35			50	ns
Maximum DC reverse current at TJ =25°C at rated DC blocking voltage per leg at TJ =125°C	I_R	5.0 250				uA uA

Thermal Characteristics

PARAMETER	SYMBOLS	MUR810	MUR820	MUR840	MUR860	UNIT
Typical thermal resistance junction to case per leg	$R_{\theta JC}$	2.5				°C/W

Note 1: Reverse recovery time test condition, I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

Rating and characteristic curves (MUR810 THRU MUR860)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

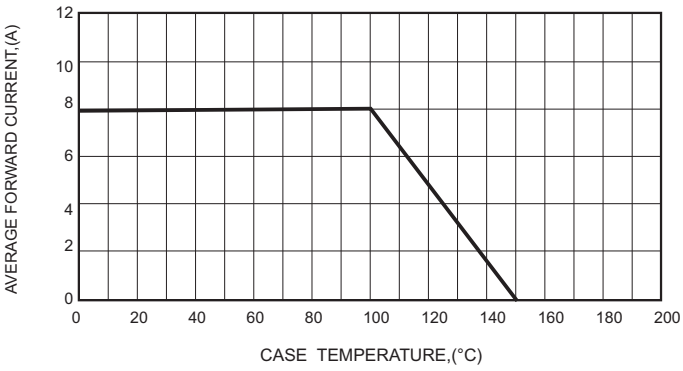


FIG.2-TYPICAL FORWARD CHARACTERISTICS

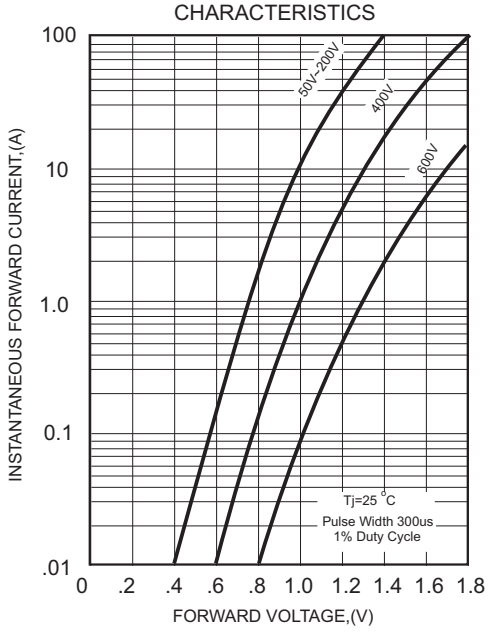


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

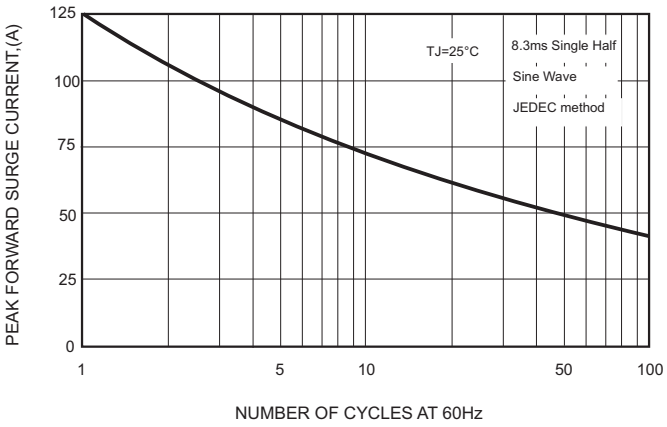


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

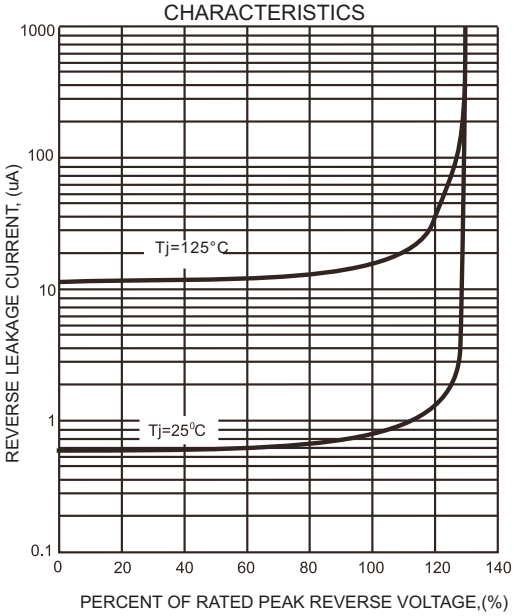
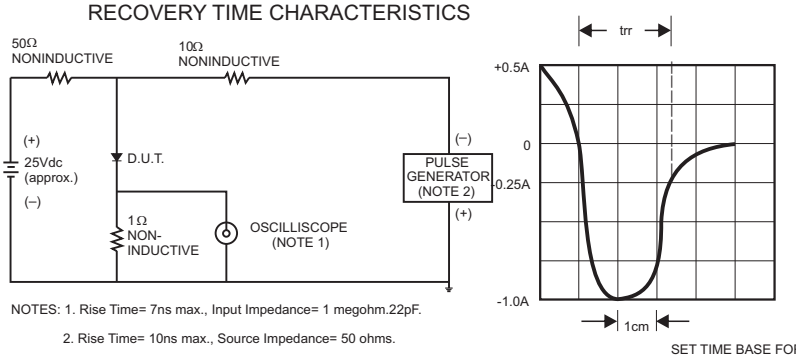


FIG.5- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.

2. Rise Time= 10ns max., Source Impedance= 50 ohms.

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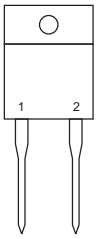
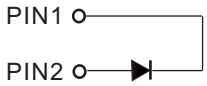
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
MUR810	MUR810
MUR820	MUR820
MUR840	MUR840
MUR860	MUR860

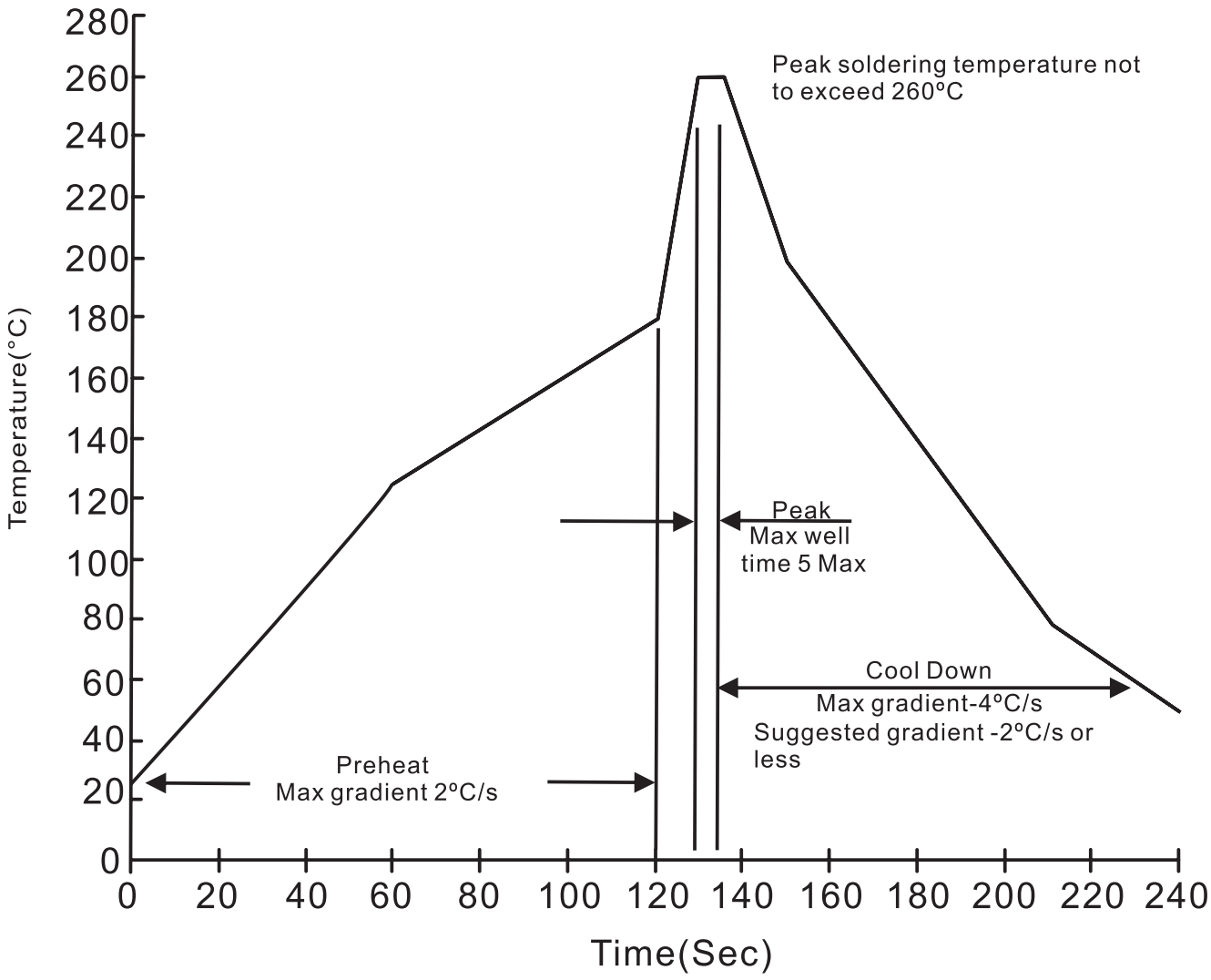
Tube packing

PACKAGE	TUBE (pcs)	TUBE SIZE (m/m)	BOX (pcs)	INNER BOX (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
TO-220AC	50	525*32*7.5	1000	555*150*40	580*230*175	5,000	15.0

MUR810 THRU MUR860

Suggested thermal profiles for soldering processes

1.Lead free temperature profile wave-soldering



MUR810 THRU MUR860

High reliability test capabilities

Item Test	Conditions	Reference
1. Solder Resistance	at 260±5°C for 10±2sec. immerse body into solder 1/16"±1/32"	MIL-STD-750D METHOD-2031
2. Solderability	at 245±5°C for 5 sec.	MIL-STD-202F METHOD-208
3. High Temperature Reverse Bias	V_R=80% rate at T_J=150°C for 168 hrs.	MIL-STD-750D METHOD-1038
4. Forward Operation Life	Rated average rectifier current at T_A=25°C for 500hrs.	MIL-STD-750D METHOD-1027
5. Intermittent Operation Life	T_A = 25°C, I_F = I_O On state: power on for 5 min. off state: power off for 5 min. on and off for 500 cycles.	MIL-STD-750D METHOD-1036
6. Pressure Cooker	15P_{SIG} at T_A=121°C for 4 hrs.	JESD22-A102
7. Temperature Cycling	-55°C to +125°C dwelled for 30 min. and transferred for 5min. total 10 cycles.	MIL-STD-750D METHOD-1051
8. Forward Surge	8.3ms single half sine-wave , one surge.	MIL-STD-750D METHOD-4066-2
9. Humidity	at T_A=85°C, RH=85% for 1000hrs.	MIL-STD-750D METHOD-1021
10. High Temperature Storage Life	at 175°C for 1000 hrs.	MIL-STD-750D METHOD-1031

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