



MUR1660-110MIL

VOLTAGE RANGE 600 Volts
CURRENT 16.0 Ampere

Features

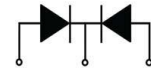
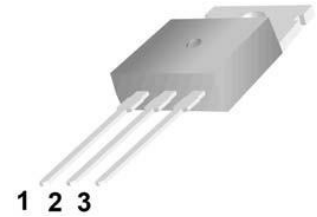
- Low power loss, high efficiency, High surge capacit
- For use in low voltage, high frequency inverters
- Metal silicon junction, majority carrier conduction
- High current Capability, low forward voltage drop
- Guard ring for over voltage protection

TO-220AB



Mechanical Data

- Case: TO-220AB molded plastic over glass passivated chip
- Case: Copper ase plate & Plastic Shell
- Molding compound meets UL 94 V-0 flammability rating, Halogen-free, RoHS-compliant, and commercial grade
- Weight: 0.08ounce, 2.24 gram



1. Anode 2. Cathode 3. Anode

Maximum Ratings and Electrical Characteristics

- Ratings at 25°C ambient temperature unless otherwise specified
- Single Phase, half wave, 60Hz, resistive or inductive load
- For capacitive load derate current by 20%

TYPE NUMBER	SYMBOL	S	MUR1660 95MIL	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}		600	Volts
Maximum RMS Voltage	V_{RMS}		420	Volts
Maximum DC Blocking Voltage	V_{DC}		600	Volts
Maximum Average Forward Rectified Current 0.375"(9.5mm) lead length at $T_A=100^{\circ}\text{C}$	$I_{(AV)}$		8	Amps
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)	I_{FSM}		200	Amps
Maximum Instantaneous Forward Voltage at 8A (NOTE 3)	V_F		1.70	Volts
Maximum DC Reverse Current at rated DC blocking Voltage at	I_R	$T_A = 25^{\circ}\text{C}$	5.0	μA
		$T_A = 125^{\circ}\text{C}$	50	
Maximum Reverse Recovery Time (NOTE 1)	T_{RR}		50	nS
Typical Junction Capacitance (NOTE 2)	C_J		62	pF
Typical Thermal Resistance (NOTE 4)	$R_{\theta JA}$		1.4	$^{\circ}\text{C/W}$
Operating Junction Temperature Range	T_J		(-55 to +150)	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}		(-55 to +150)	$^{\circ}\text{C}$

Notes:

1. Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$.
2. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
3. Pulse test: 300 μs pulse width, 1% duty cycle
4. Unit mounted on P.C.B. with 0.033"x0.043"(1.00mm×1.30mm) copper pads.



16A SUPER FAST BARRIER RECTIFIER

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Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

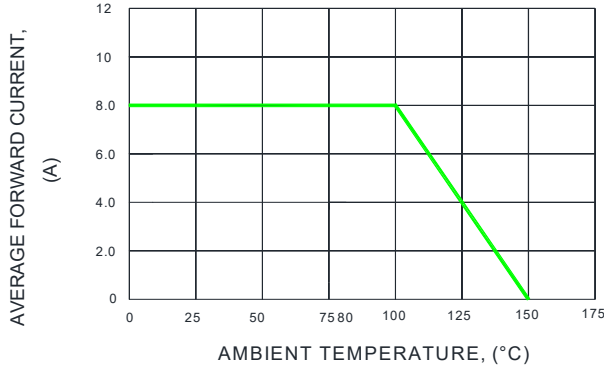


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

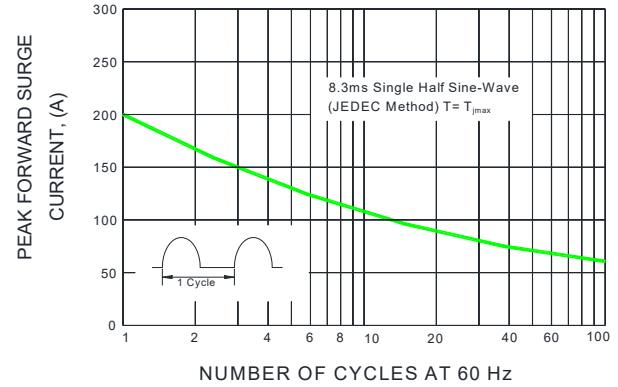


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

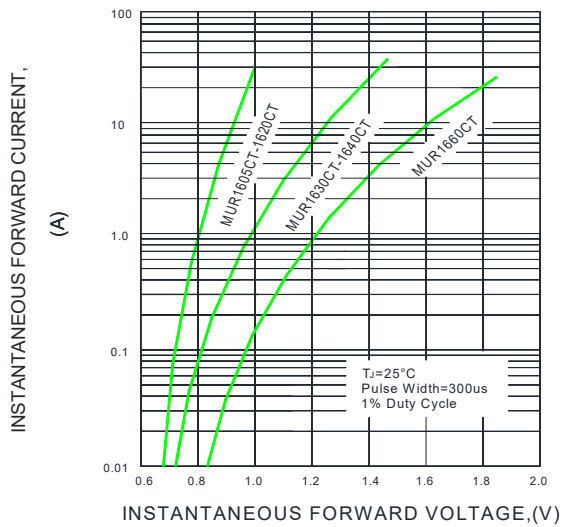


FIG.4-TYPICAL REVERSE CHARACTERISTICS

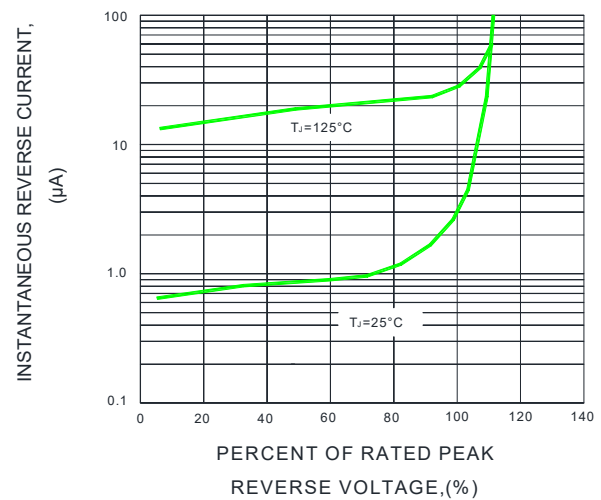


FIG.5-TYPICAL JUNCTION CAPACITANCE

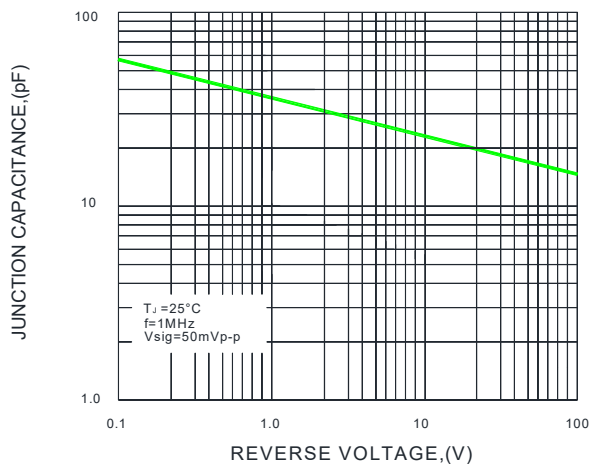
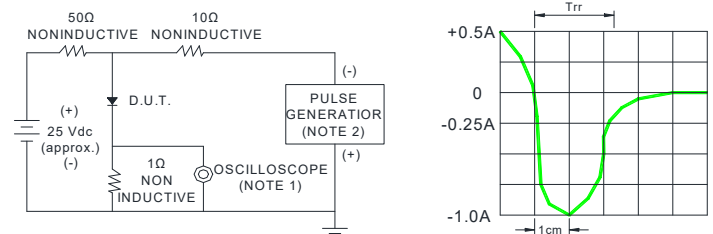


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES : 1. Rise Time=7ns mas. Input Impedance= 1 magohm. 22pF
2. Rise time=10ns max. Source Impedance= 50 ohms

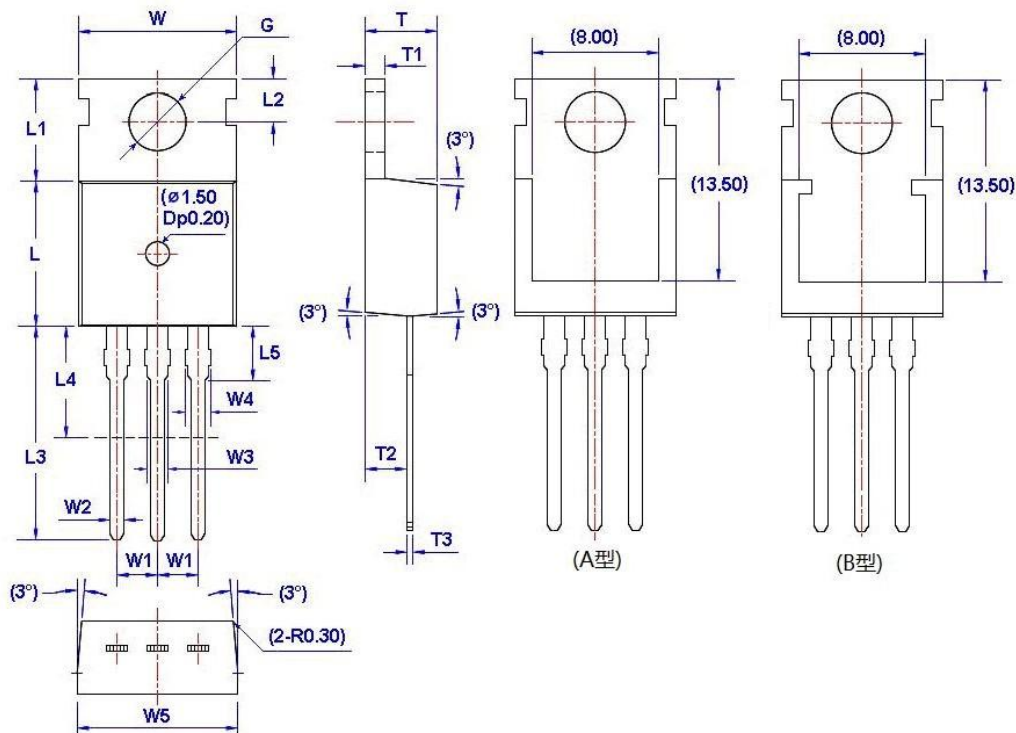


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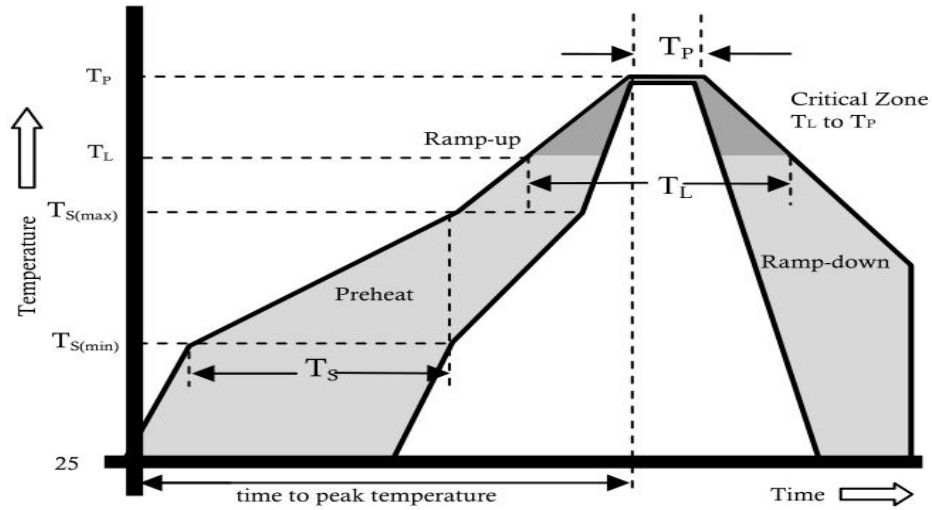
Package Outline Dimensions millimeters



Symbol	Size		Symbol	Size		Symbol	Size		Symbol	Size	
	Min	Max		Min	Max		Min	Max		Min	Max
W	9.66	10.28	W5	9.80	10.20	L4	6.20	6.60	T3	0.45	0.60
W1	2.54 (TYP)		L	9.00	9.40	L5	2.79	3.30	G(Φ)	3.50	3.70
W2	0.70	0.95	L1	6.40	6.80	T	4.30	4.70			
W3	1.17	1.37	L2	2.70	2.90	T1	1.15	1.40			
W4*	1.32	1.72	L3	12.70	14.27	T2	2.20	2.60			



Reflow Profile



Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time(Min to Max)	60-180 secs.
Average ramp up rate(Liquidus Temp(T_L) to peak)		3°C/sec. Max.
TS(max) to T_L - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature (T_L)(Liquidus)	+217°C
	Temperature (T_L)	60-150 secs.
Peak Temp (T_P)		+(260+0/-5)°C
Time within 5°C of actual Peak Temp (T_P)		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp (T_P)		8 min. Max.
Do not exceed		+260°C

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