MUR60120

60.0 AMP HIGH EFFICIENCY RECTIFIERS



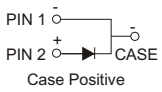
VOLTAGE RANGE
1200 Volts
CURRENT
60 Ampere

FEATURES

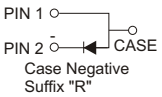
* Ideal for surface mount applications
* Easy pick and place
* Built-in strain relief
* Fast switching speed

MECHANICAL DATA

* Case: Molded plastic
* Epoxy: UL 94V-0 rate flame retardant
* Metallurgically bonded construction
* Polarity: Color band denotes cathode end
* Mounting position: Any

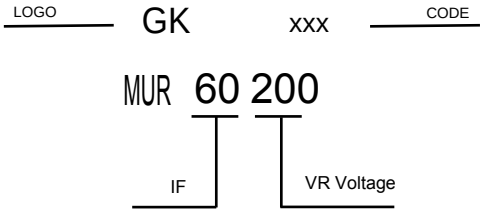


Case Positive



Case Negative
Suffix "R"





MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature uniess otherwies specified.
Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

TYPE NUMBER	MU60120	UNITS
Maximum Recurrent Peak Reverse Voltage	1200	V
Maximum RMS Voltage	840	V
Maximum DC Blocking Voltage	1200	V
Maximum Average Forward Rectified Current	60.0	A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	500	A
Maximum Instantaneous Forward Voltage at 60.0A Type at 60.0A Type at 30.0A Type at 20.0 A	2.4 1.85 1.58 1.45	V
Maximum DC Reverse Current Ta=25°C	5	μA
at Rated DC Blocking Voltage Ta=100°C	100	μA
Maximum Reverse Recovery Time (Note 1)	120	nS
Typical Junction Capacitance (Note 2)	200	pF
Typical Thermal Resistance RθJ-C (Note 3)	1.8	°C/W
Typical Thermal Resistance RθJ-A (Note 4)	50	°C/W
Operating and Storage Temperature Range T_J, T_{STG}	-65 — +175	°C

NOTES:

1. Reverse Recovery Time test condition: IF=0.5A, IR=1.0A, IRR=0.25A
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
3. Between junction and case
4. Between junction and Air

RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

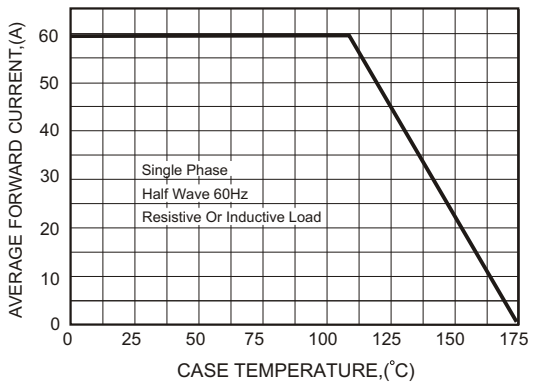


FIG.2-TYPICAL FORWARD CHARACTERISTICS

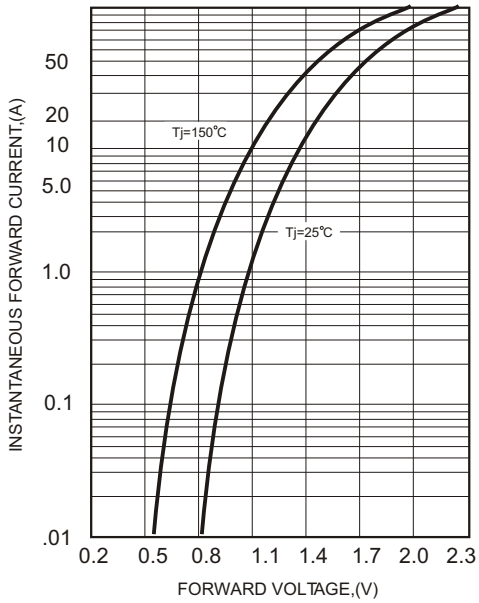
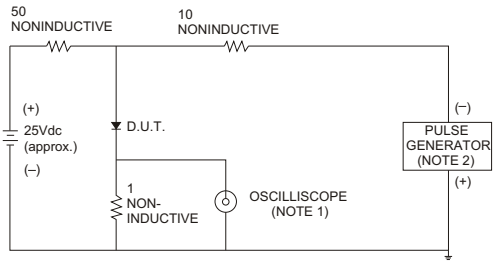
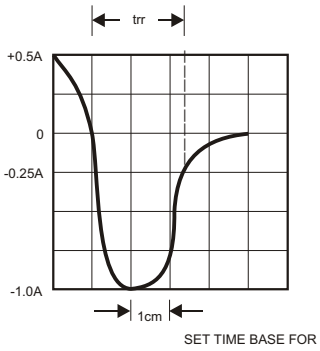


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



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

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



SET TIME BASE FOR

50 / 10ns / cm

FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

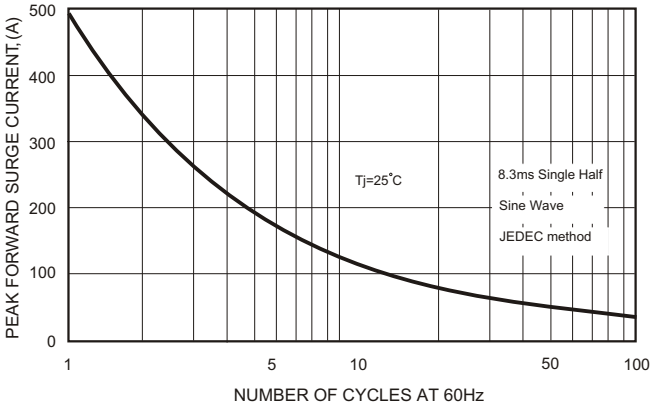
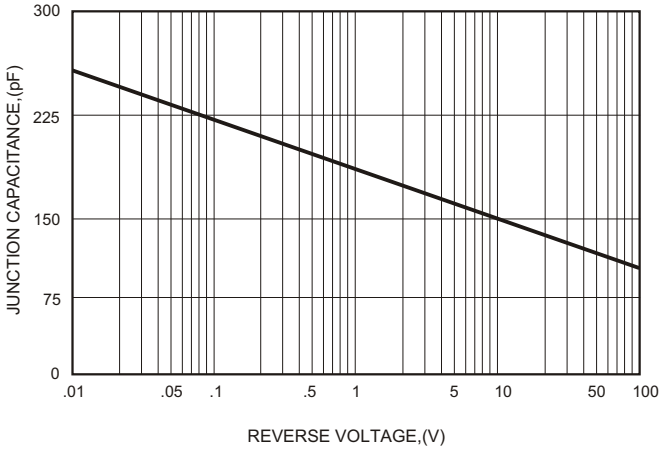


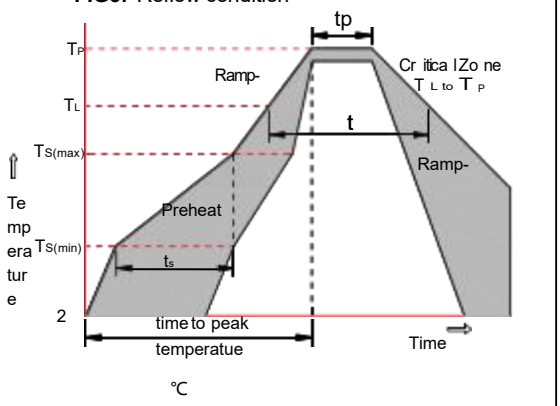
FIG.5-TYPICAL JUNCTION CAPACITANCE



Soldering parameters

Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217℃
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)℃
Time within 5℃ of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6℃/sec. Max
Time 25℃ to Peak Temp (T_P)		8 min. Max
Do not exceed		+260℃

FIG5: Reflow condition



Package Dimensions & Suggested Pad Layout

TO-220AC

