

FEATURES

- Low forward voltage drop.
- Excellent high temperature stability.
- Fast switching capability.
- Suffix "G" indicates Halogen-free part, ex.CP10S45SG.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

MECHANICAL DATA

- Epoxy : UL94-V0 rated flame retardant.
- Case : Molded plastic, TO-277.
- Lead : Solder plated, solderable per MIL-STD-750, Method 2026.
- Polarity: Indicated by cathode band.
- Mounting Position : Any.

Description and Applications

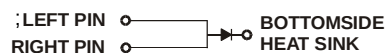
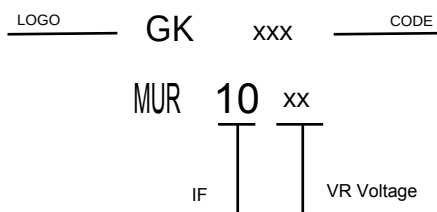
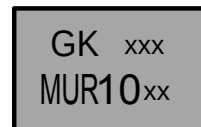
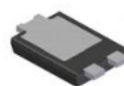
Suitable for rectification and freewheeling for SMPS, LED lighting, adapters, battery chargers, home appliances, office equipment, and telecommunication applications.

VOLTAGE RANGE

200 to 600 Volts

CURRENT

1 0 Ampere



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 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	MUR1020	MUR1040	MUR1060	UNITS
Maximum Recurrent Peak Reverse Voltage	200	400	600	V
Maximum RMS Voltage	140	280	420	V
Maximum DC Blocking Voltage	200	400	600	V
Maximum Average Forward Rectified Current	10.0			A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	175			A
Maximum Instantaneous Forward Voltage at 10.0A	1.0	1.25	1.75	V
Maximum DC Reverse Current Ta=25°C	5.0			μA
at Rated DC Blocking Voltage Ta=100°C	150			μA
Maximum Reverse Recovery Time (Note 1)	35			nS
Typical Junction Capacitance (Note 2)	95			pF
Operating and Storage Temperature Range Tj, Tstg	-65 — +150			°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.

RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

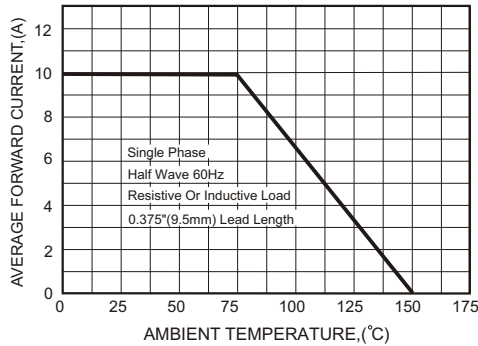
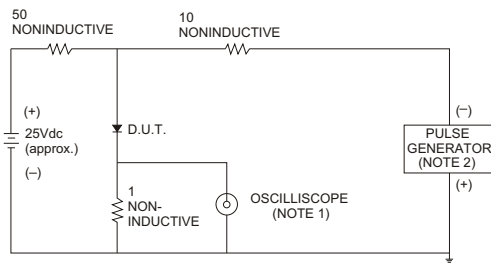


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.
2. Rise Time= 10ns max., Source Impedance= 50 ohms.

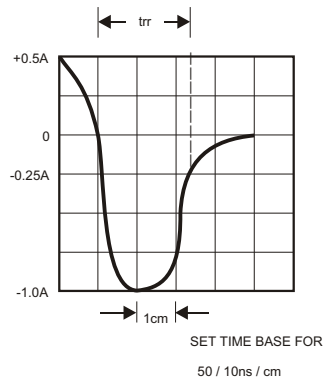


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

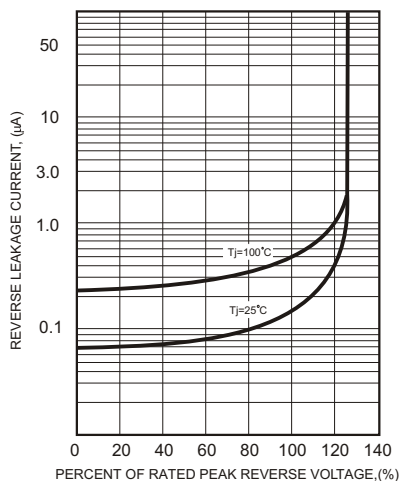


FIG.2-TYPICAL FORWARD CHARACTERISTICS

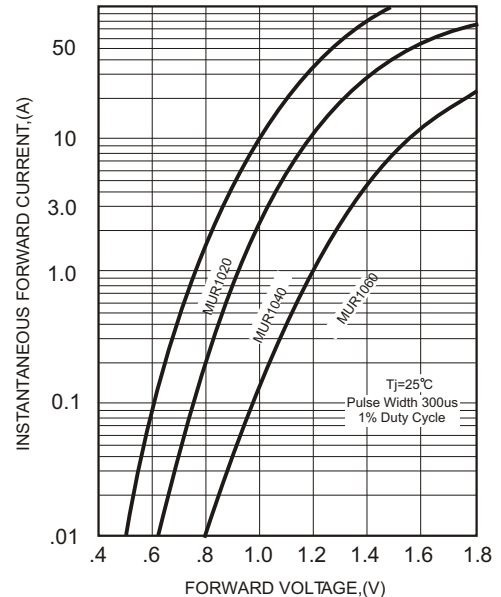


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

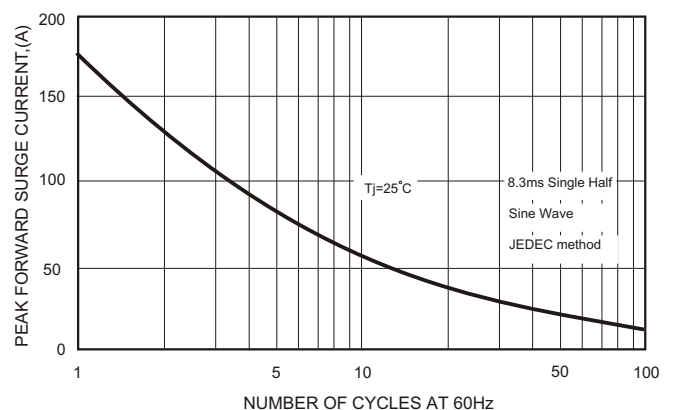
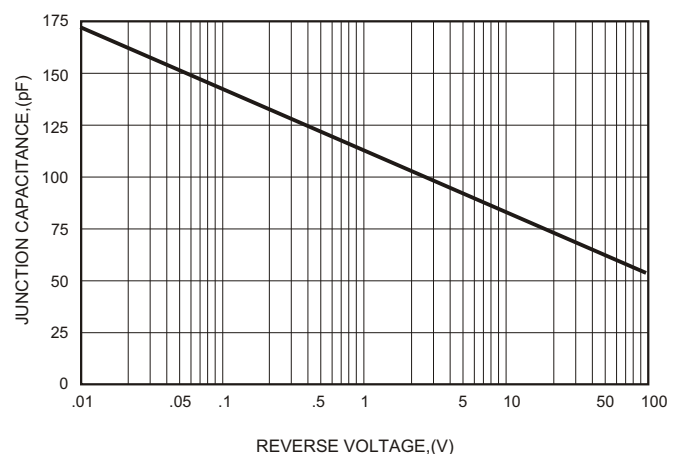
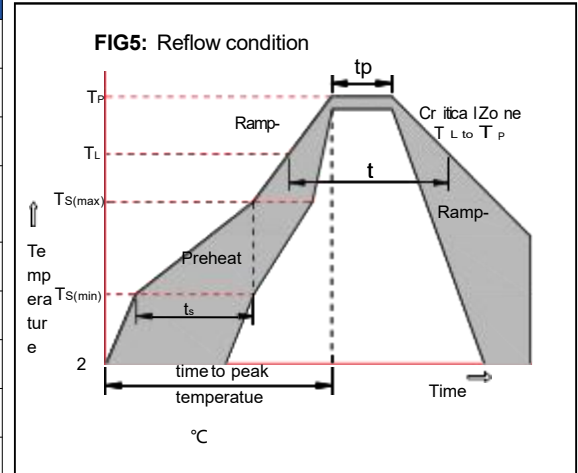


FIG.6-TYPICAL JUNCTION CAPACITANCE



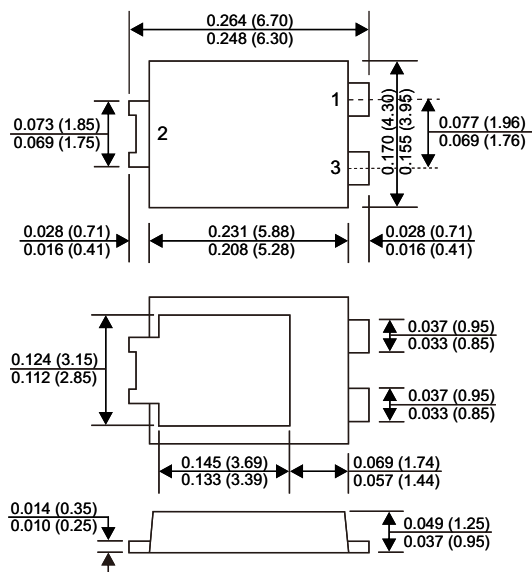
Soldering parameters

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

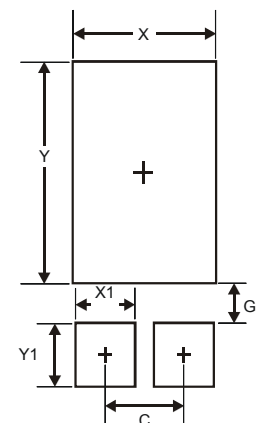


Package Dimensions & Suggested Pad Layout

TO - 277

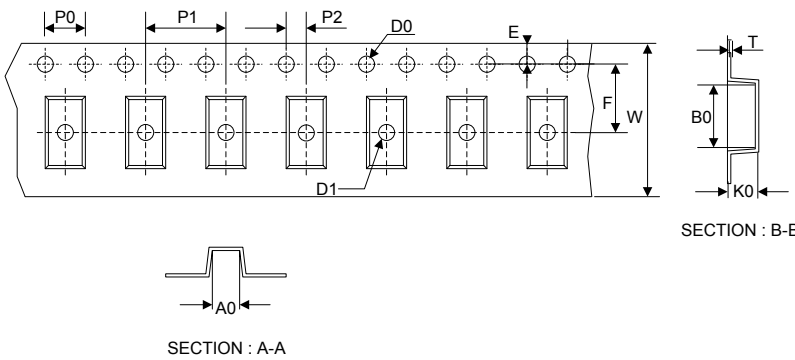
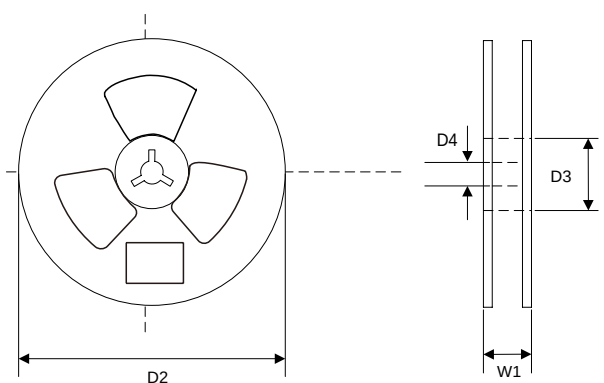


Dimensions in inches and (millimeters)



Dimensions	Value (in mm)
C	1.84
G	1.00
X	3.50
X1	1.40
Y	4.90
Y1	1.50

Tape & reel specification

Tape		Symbol	Dimension (mm)
		P0	4.00±0.20
		P1	8.00±0.20
		P2	2.00±0.20
		D0	1.55±0.20
		D1	1.55±0.20
		E	1.75±0.15
		F	5.50±0.20
		W	12.00±0.20
		A0	4.50±0.20
		B0	6.80±0.20
		K0	1.35±0.20
		T	0.23±0.10
13" Reel			
		D2	330.0±5.0
		D3	73Min.
		D4	13.5±2.5
		W1	16.0±3.0
		Quantity: 5000PCS	