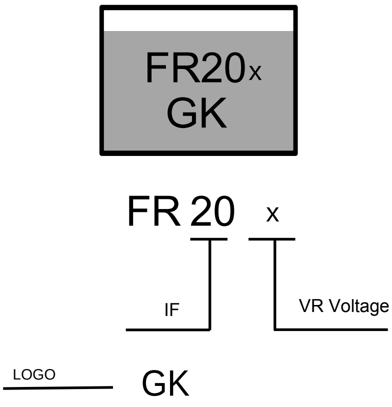
FR201 THRU FR207
2.0 AMP FAST RECOVERY RECTIFIERS

VOLTAGE RANGE
50 to 1000 Volts
CURRENT
2.0 Ampere

FEATURES

- * Low forward voltage drop
- * High current capability
- * High reliability
- * High surge current capability



MECHANICAL DATA

- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Lead: Axial leads, solderable per MIL-STD-202, method 208 guranteed
- * Polarity: Color band denotes cathode end
- * Mounting position: Any

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		FR201	FR202	FR203	FR204	FR205	FR206	FR207	UNITS
Maximum Recurrent Peak Reverse Voltage		50	100	200	400	600	800	1000	V
Maximum RMS Voltage		35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage		50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current		2.0							A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)		60							A
Maximum Instantaneous Forward Voltage at 2.0A		1.3							V
Maximum DC Reverse Current	Ta=25°C	5.0							µA
at Rated DC Blocking Voltage	Ta=100°C	100							µA
Maximum Reverse Recovery Time (Note 1)		150				250	500		nS
Typical Junction Capacitance (Note 2)		40							pF
Operating and Storage Temperature Range T_J, T_{STG}		-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

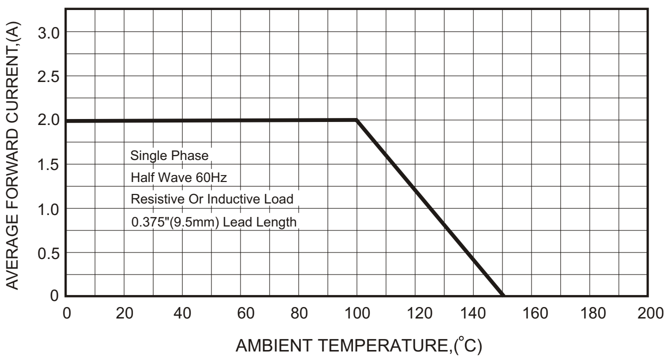


FIG.2-TYPICAL FORWARD CHARACTERISTICS

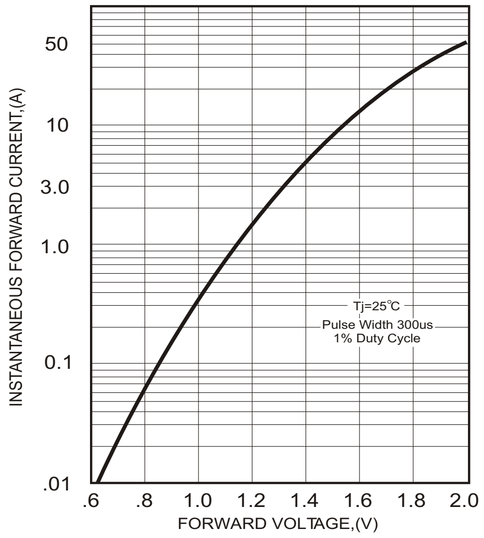
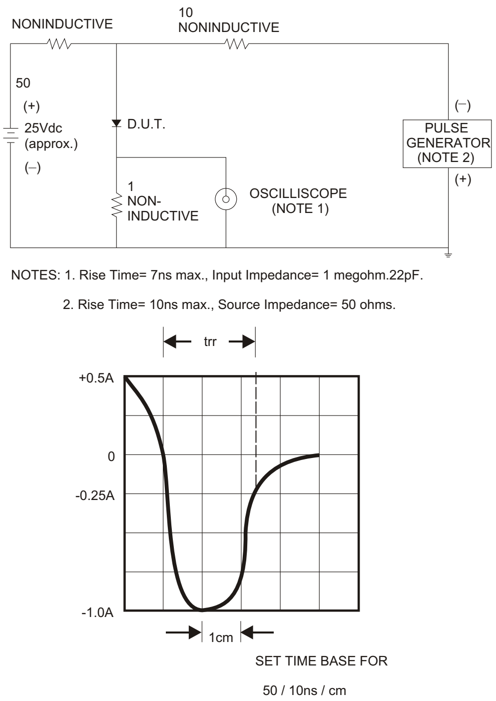


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



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

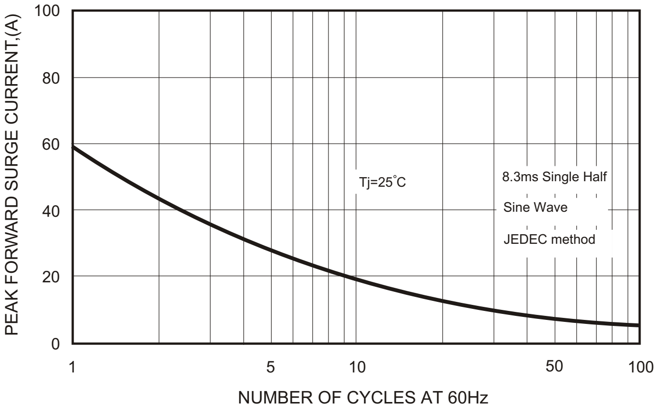


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

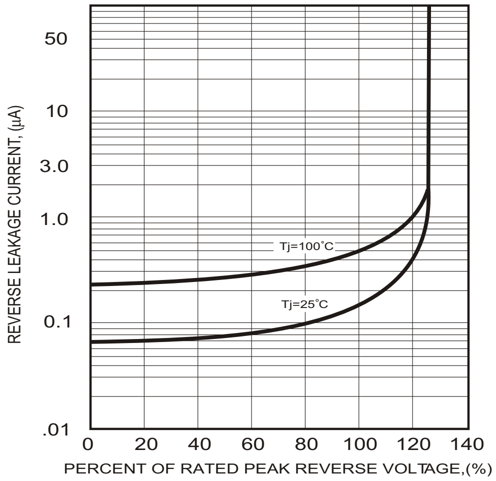
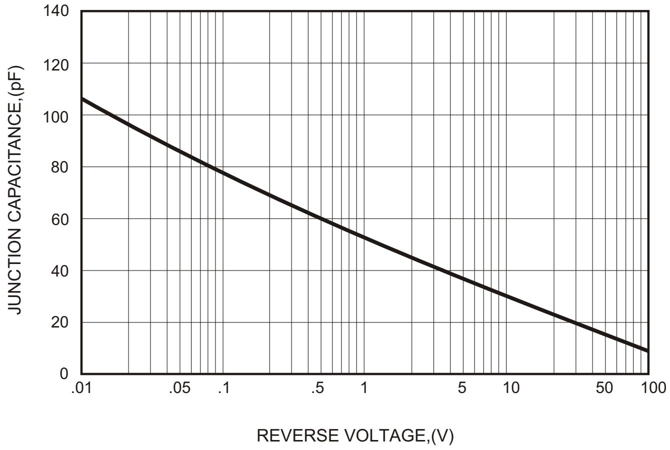


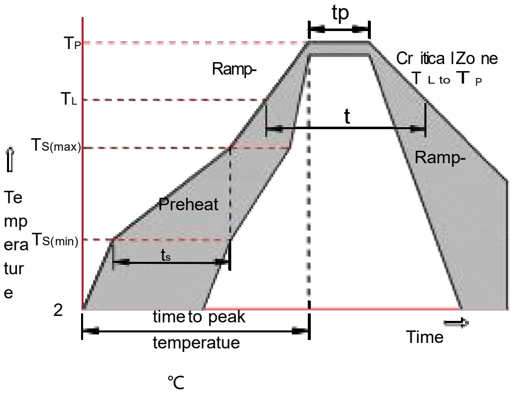
FIG.6-TYPICAL JUNCTION CAPACITANCE



Soldering parameters

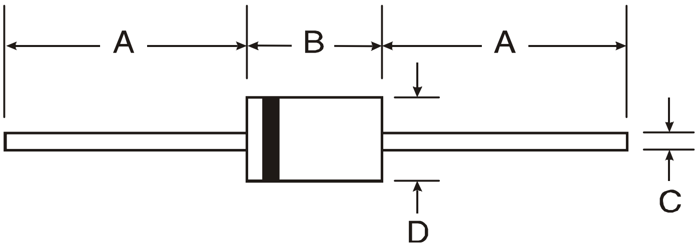
Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L)(Liquid 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

DO-15



DO-15		
Dim	**Min**	**Max**
A	25.40	-
B	5.80	7.60
C	0.70	0.90
D	2.60	3.60
All Dimensions in mm		