



FEATURES

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

MECHANICAL DATA

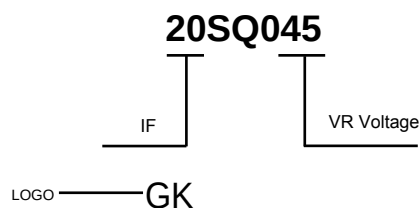
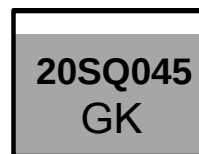
- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed
- * Polarity: Color band denotes cathode end
- * Mounting position: Any
- * Weight: 1.65 grams

VOLTAGE RANGE

45.0 Volts

CURRENT

20.0 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%.

	Symbols	20SQ045	Units
Maximum repetitive peak reverse voltage	VRRM	45	Volts
Maximum RMS voltage	VRMS	32	Volts
Maximum DC blocking voltage	VDC	45	Volts
Maximum average forward rectified current 0.375"(9.5mm) lead length(see fig.1)	I(AV)	20.0	Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated Tj)	IFSM	380.0	Amps
Maximum instantaneous forward voltage at 20.0 A(Note 1)	VF	0.55	Volts
Maximum instantaneous reverse current at rated DC blocking voltage(Note 1)	IR	T _A = 25°C 0.2	mA
		T _A = 100°C 50	
Typical junction capacitance(Note 3)	CJ	450	pF
Typical thermal resistance (Note 2)	RθJC	2.5	°C/W
Operating junction temperature range at reduced reverse voltage VR<=80%VRRM in DC forward model VR<=50%VRRM	TJ	-65 to +150 -65 to +175 -65 to +200	°C
Storage temperature range	TSTG	-65 to +200	°C

Notes: 1.Pulse test: 300μs pulse width,1% duty cycle

2.Thermal resistance from junction to case

3.Measured at 1MHz and reverse voltage of 4.0 volts

RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

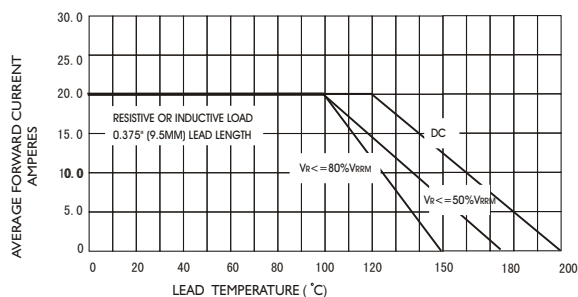


FIG.2-TYPICAL FORWARD CHARACTERISTICS

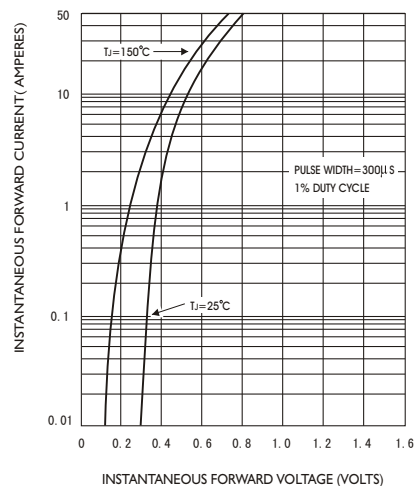


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

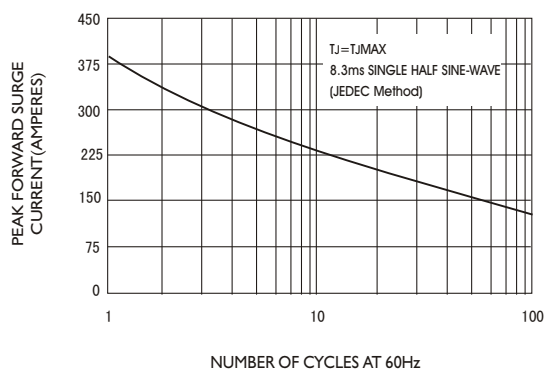


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

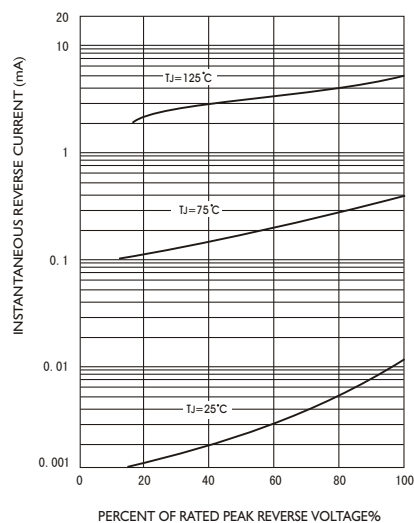


FIG.5-TYPICAL JUNCTION CAPACITANCE

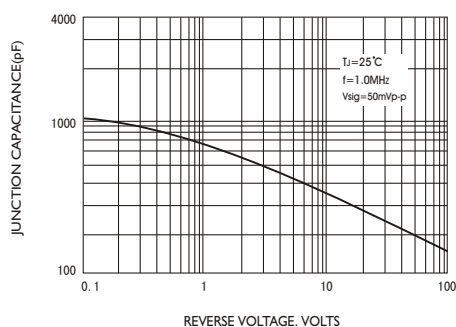
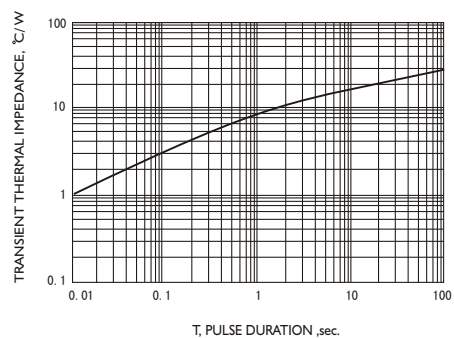
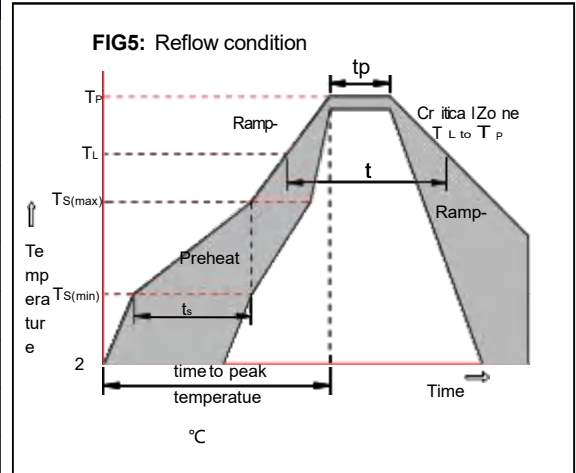


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE



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

