15SQ045
15.0 AMP SCHOTTKY BARRIER RECTIFIERS



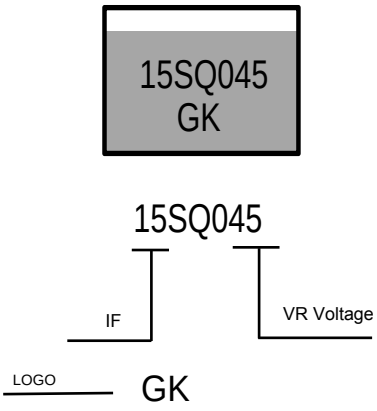
VOLTAGE RANGE
45.0 Volts
CURRENT
15.0 Ampere

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
* Weight: 1.65 grams



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%.

	Symbols	15SQ045	Units
Maximum repetitive peak reverse voltage	V_{RRM}	45	Volts
Maximum RMS voltage	V_{RMS}	32	Volts
Maximum DC blocking voltage	V_{DC}	45	Volts
Maximum average forward rectified current 0.375"(9.5mm) lead length(see fig.1)	$I_{(AV)}$	15.0	Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated T_L)	I_{FSM}	300	Amps
Maximum instantaneous forward voltage at 15.0 A(Note 1)	V_F	0. 55	Volts
Maximum instantaneous reverse current at rated DC blocking voltage(Note 1) T_A =25°C	I_R	0.2	mA
Maximum instantaneous reverse current at rated DC blocking voltage(Note 1) T_A =100°C	I_R	50	mA
Typical junction capacitance(Note 3)	C_J	400	pF
Typical thermal resistance (Note 2)	$R_{\theta JC}$	2.5	°C/W
Operating junction temperature range at reduced reverse voltage VR<=80%VRRM VR<=50%VRRM in DC forward model	T_J	-65 to+150 -65 to+175 -65 to+200	°C
Storage temperature range	T_{STG}	-65 to+200	°C

Notes: 1.Pulse test: 300μ s 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

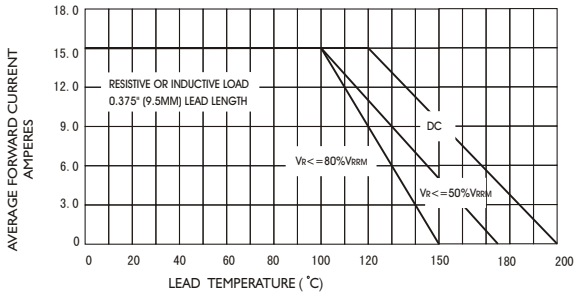


FIG.2-TYPICAL FORWARD CHARACTERISTICS

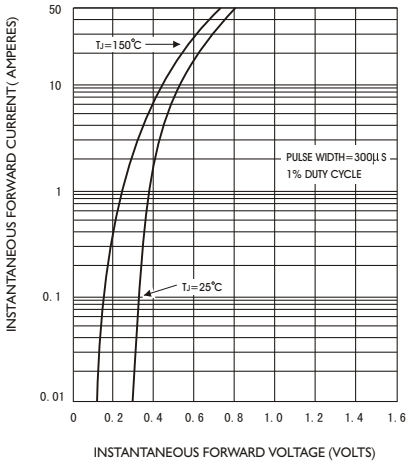


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

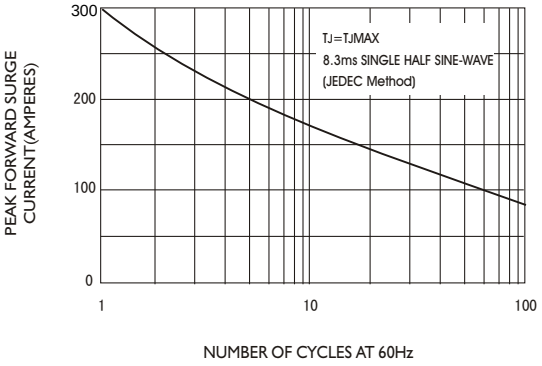


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

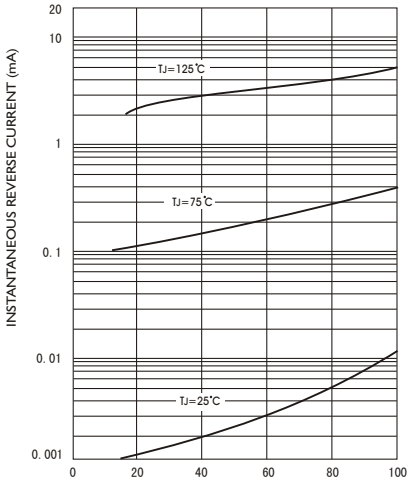


FIG.5-TYPICAL JUNCTION CAPACITANCE

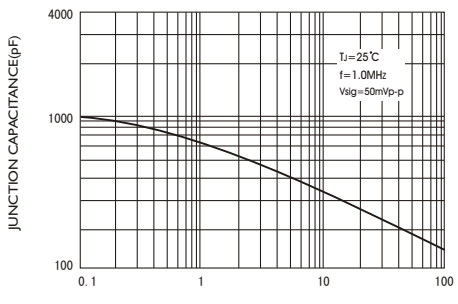
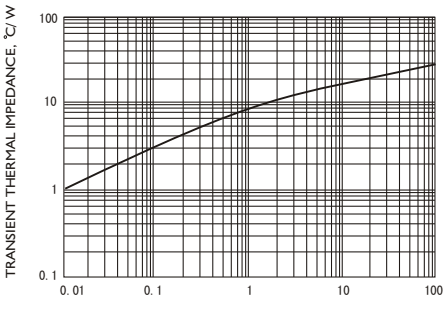


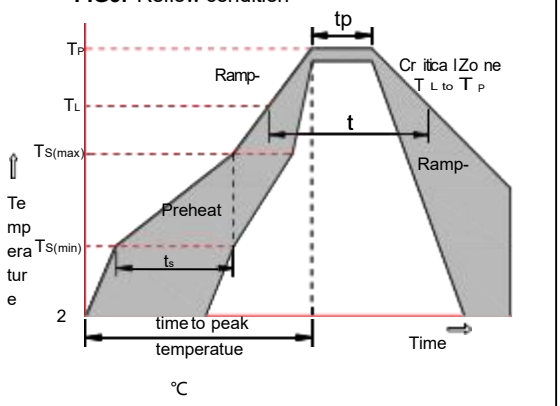
FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE



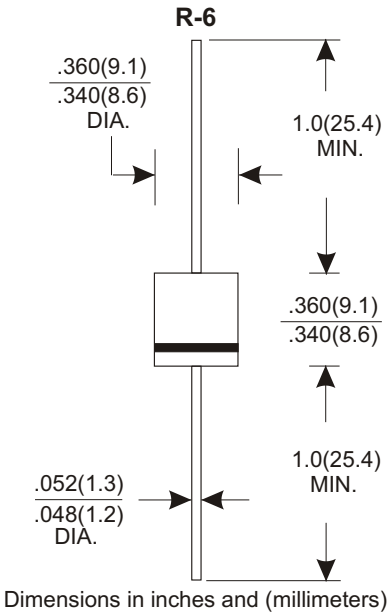
Soldering parameters

Reflow Condition		Pb-Free assembly (see as 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



Dimensions in inches and (millimeters)