



### FEATURES

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

### MECHANICAL DATA

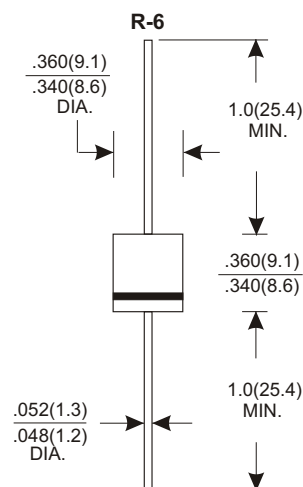
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any
- \* Weight: 1.65 grams

### VOLTAGE RANGE

45 Volts

### CURRENT

15.0 Amperes



Dimensions in inches and (millimeters)

## 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	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 $T_J$ )	$I_{FSM}$	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)	$I_R$	$T_A = 25^\circ C$ 0.2	mA
		$T_A = 100^\circ C$ 50	
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 $V_R \leq 80\% V_{RRM}$ $V_R \leq 50\% V_{RRM}$ 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: 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 (15SQ045)

FIG.1-FORWARD CURRENT DERATING CURVE

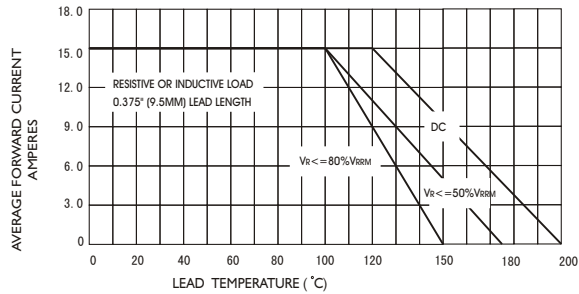


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

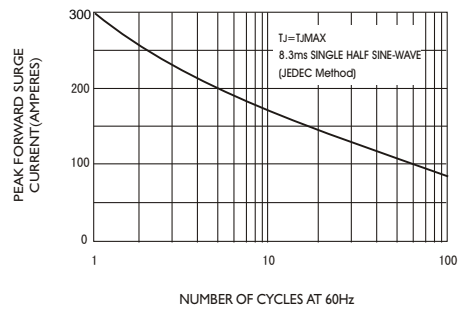


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

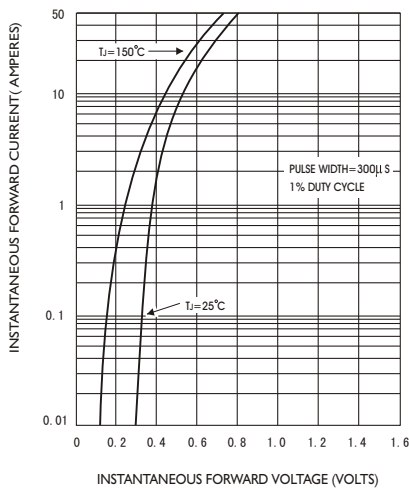


FIG.4-TYPICAL REVERSE CHARACTERISTICS

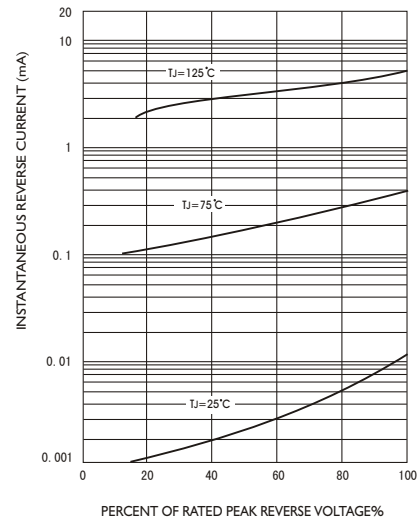


FIG.5-TYPICAL JUNCTION CAPACITANCE

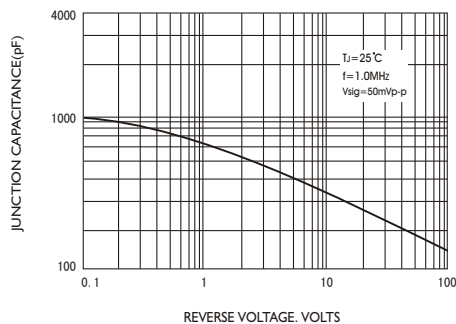
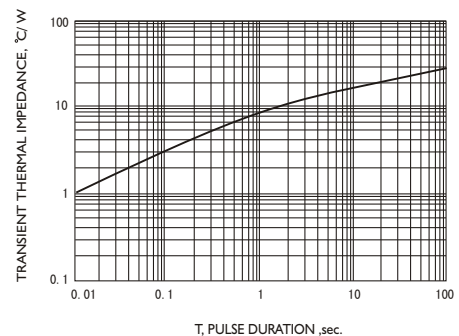


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE



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