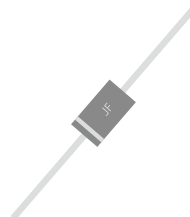


FEATURES

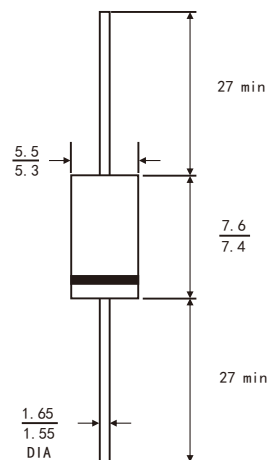
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High surge capability
- High temperature soldering guaranteed:260°C/10 seconds at terminals
- Component in accordance to RoHS 2011/65/EU



RoHS
COMPLIANT



R-7



Dimensions in inches and (millimeters)

MECHANICAL DATA

- Terminals: Plated axial leads, solderable per MIL-STD-750,method 2026
- Polarity: color band denotes cathode end
- Mounting Position: Any
- Weight: 1.55 grams

TYPICAL APPLICATIONS

For use in low voltage ,high frequency inverters ,DC/DC converters, free wheeling ,and polarity protection applications

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	20.0A
V_{RRM}	45V
I_{FSM}	350A
V_f at $I_F=20.0A, 25^\circ C$	0.49V
T_{JMAX}	150°C

MAXIMUM RATINGS

(Ratings at 25°C ambient temperature unless otherwise specified)

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	45	V
Maximum average forward rectified current 0.375"(9.5mm) lead length(see fig.1)	$I_{F(AV)}$	20.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	I_{FSM}	350	A
Operating junction temperature range	T_J	-55 to+150	°C
Storage temperature range	T_{stg}	-55 to+150	°C

RATINGS AND CHARACTERISTIC OF SR2045

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ Unless otherwise noted)

Parameter	Test Conditions		Symbol	TYP.	MAX	Unit
Instantaneous forward voltage	$T_A=25^{\circ}\text{C}$	$I_F=30.0\text{A}$	V_F ¹⁾	0.54	0.57	V
		$I_F=20.0\text{A}$		0.49	-	
		$I_F=15.0\text{A}$		0.46	-	
	$T_A=150^{\circ}\text{C}$	$I_F=30.0\text{A}$		0.48	-	
		$I_F=20.0\text{A}$		0.41	-	
		$I_F=15.0\text{A}$		0.36	-	
Reverse current	$T_A=25^{\circ}\text{C}$	$V_R=45\text{V}$	I_R ²⁾	40	100	μA
	$T_A=100^{\circ}\text{C}$			-	10	mA
	$T_A=125^{\circ}\text{C}$			-	25	
Typical junction capacitance	4V,1MHz		C_J	2.0		nF

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

2.Pulse test: pulse width \leq 40ms

THERMAL CHARACTERISTICS

Parameter	Symbol	SR2045	Unit
Typical thermal resistance ³⁾	$R_{\theta JA}$	10.0	$^{\circ}\text{C}/\text{W}$
	$R_{\theta JL}$	2.1	

3.Thermal resistance from junction to lead vertical P.C.B. mounted , 0.375"(9.5mm)lead length

RATINGS AND CHARACTERISTIC OF SR2045

FIG.1-FORWARD CURRENT DERATING CURVE

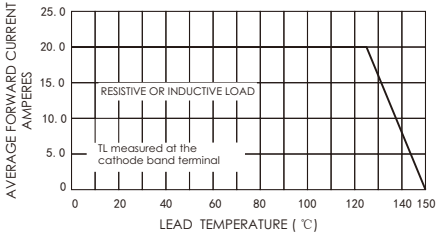


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

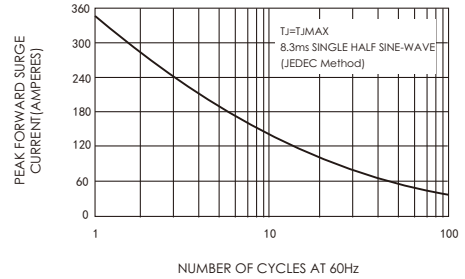


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

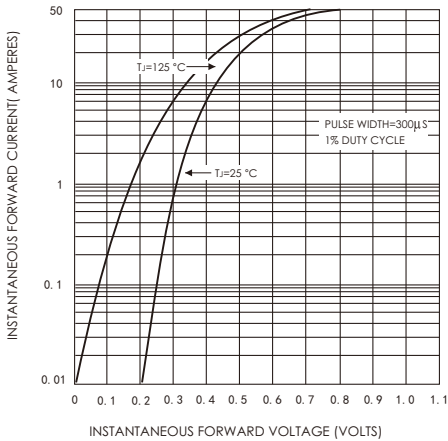


FIG.4-TYPICAL REVERSE CHARACTERISTICS

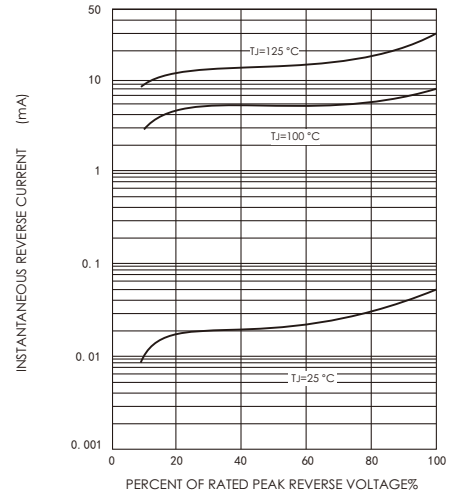


FIG.5-TYPICAL JUNCTION CAPACITANCE

