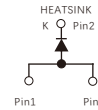


FEATURES

- 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 2015/863/EU



TO-252 (DPAK)



MECHANICAL DATA

- Case: JEDEC TO-252 molded plastic body
- Terminals: Lead solderable per MIL-STD-750,method 2026
- Polarity: As marked
- Mounting Position: Any

TYPICAL APPLICATIONS

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

PRIMARY CHARACTERISTICS

I_{FAV}	20.0A
V_{RRM}	45V
I_{FSM}	200A
V_F at $I_F=20.0A(25^\circ C)$	0.54V
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(see fig.1)	$I_{F(AV)}$	20	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	I_{FSM}	200	A
Operating junction temperature range	T_j	-55 to+150	°C
Storage temperature range	T_{stg}	-55 to+150	°C

ELECTRICAL CHARACTERISTICS (Pin1 and 3 is shorted, $T_A=25^\circ\text{C}$ Unless otherwise noted)

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instantaneous forward voltage	$I_f=20.0\text{A}$	$T_A=25^\circ\text{C}$	V_f ¹⁾	0.54	0.57	V
		$T_A=100^\circ\text{C}$		0.50	-	
		$T_A=125^\circ\text{C}$		0.48	-	
	$I_f=5.0\text{A}$	$T_A=25^\circ\text{C}$		0.42	0.45	
		$T_A=100^\circ\text{C}$		0.34	-	
		$T_A=125^\circ\text{C}$		0.31	-	
Reverse current	$V_R=45\text{V}$	$T_A=25^\circ\text{C}$	I_R ²⁾	20	50	μA
		$T_A=100^\circ\text{C}$		-	5	mA
		$T_A=125^\circ\text{C}$		7.1	15	
Typical junction capacitance	4V,1MHz		C_j	1380		pF

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

2.Pulse test: pulse width $\leq 40\text{ms}$

THERMAL CHARACTERISTICS

Parameter	Symbol	SR2045LM3	Unit
Typical thermal resistance ³⁾	$R_{\theta JC}$	2.5	$^\circ\text{C}/\text{W}$

3.Thermal resistance from junction to case,Total device.

AVAILABLE PACK INFORMATION

Product code	Pack	Carton Size L×W×H(mm)	Inner Box Size L×W×H(mm)	Tube Length (mm)	Inner Box Number	Tube Number Per A Inner Box	Part Number Per A Tube	Quantity(carton) (K)
SR2045LM3-TO-252	Tube	565×225×170	548×151×37	520	5	60	75	22.5
Product code	Pack	Carton Size L×W×H(mm)	Inner Box Size L×W×H(mm)	Reel Diameter (mm)	Inner Box Number	Reel Number Per A Inner Box	Part Number Per A Reel	Quantity(carton) (K)
SR2045LM3-TO-252	Reel	364×364×235	346×346×23	$\phi 330$	8	1	2500	20

RATINGS AND CHARACTERISTICS OF SR2045LM3

FIG.1-FORWARD CURRENT DERATING CURVE

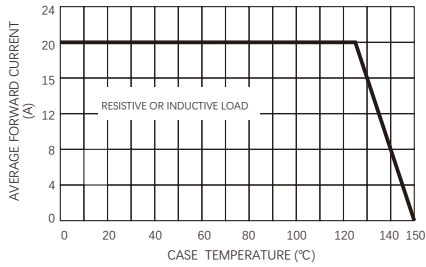


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

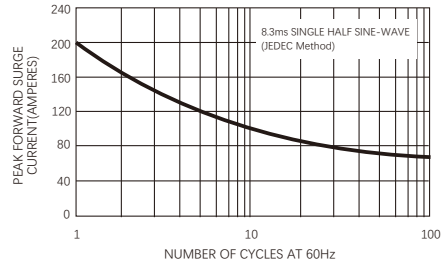


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

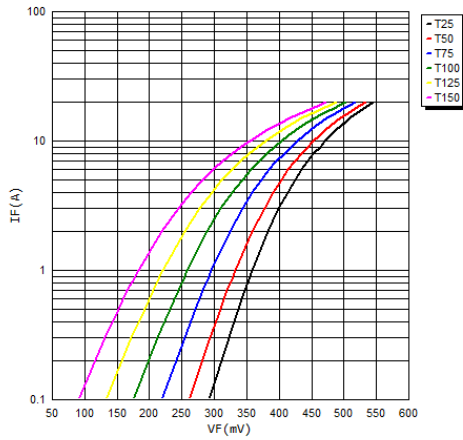


FIG.4-TYPICAL REVERSE CHARACTERISTICS

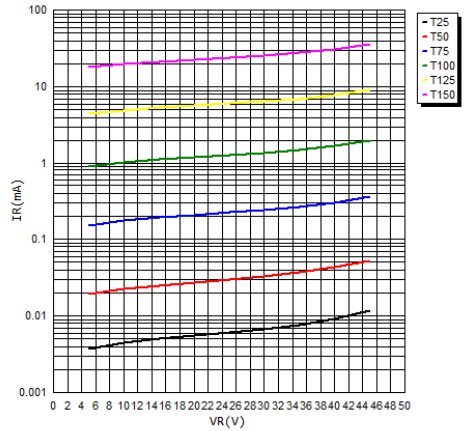
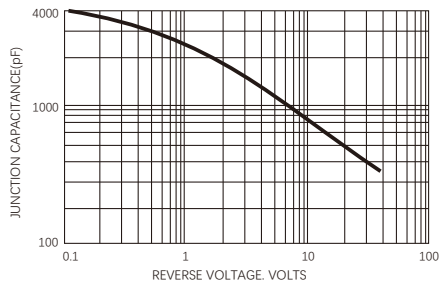
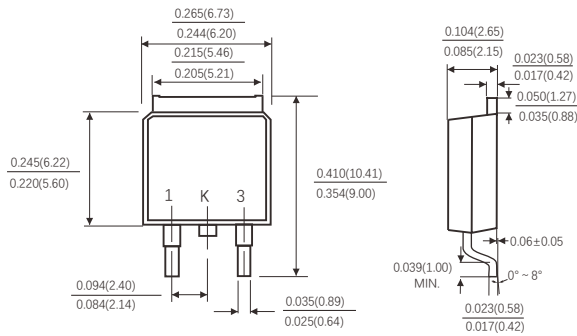


FIG.5-TYPICAL JUNCTION CAPACITANCE

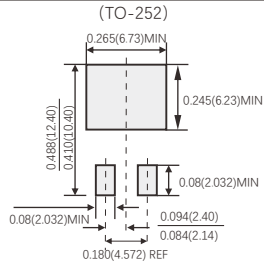


Dimensions in inches and (millimeters)

TO-252



Suggested Pad Layout



(设计者可参考推荐值根据焊接工艺要求自行确定适合的焊盘尺寸)
(Designers can refer to the recommended values according to the manufacturing process requirements to determine the appropriate pad size)

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