

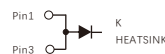
FEATURES

- Power pack
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High forward surge capability
- High frequency operation
- Meets MSL Level 1, per J-STD-020
- Component in accordance to RoHS 2015/863/EU



RoHS
COMPLIANT

TO-252(DPAK)
SR20200LM3



MECHANICAL DATA

- Case: JEDEC TO-252(DPAK)
- Molding compound meets UL94V-0 flammability rating
- Terminals: Lead solderable per J-STD-002 and JESD22-B102
- Polarity: As marked

TYPICAL APPLICATIONS

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

PRIMARY CHARACTERISTICS	
$I_F(AV)$	20A
V_{RRM}	200V
I_{FSM}	200A
V_F at $I_F=5.0A(125^\circ C)$	0.56V
I_R	2 μ A
$T_J(MAX)$	150 $^\circ C$
Package	TO-252

MAXIMUM RATINGS

(Ratings at 25 $^\circ C$ ambient temperature unless otherwise specified)

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	200	V
Maximum average forward rectified current (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}	200	A
Peak repetitive reverse current per diode at $t_p=2\mu s$ 1KHz	I_{RRM}	0.5	A
Operating junction and Storage temperature range	T_J, T_{stg}	-55 to+150	$^\circ C$

RATINGS AND CHARACTERISTIC OF SR20200LM3

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

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instantaneous forward voltage	$I_F=20\text{A}$	$T_A=25^\circ\text{C}$	V_F ¹⁾	0.86	0.90	V
		$T_A=100^\circ\text{C}$		0.73	-	
		$T_A=125^\circ\text{C}$		0.71	-	
	$I_F=5.0\text{A}$	$T_A=25^\circ\text{C}$		0.71	-	
		$T_A=100^\circ\text{C}$		0.60	-	
		$T_A=125^\circ\text{C}$		0.56	-	
Reverse current	$V_R=140\text{V}$	$T_A=25^\circ\text{C}$	I_R ²⁾	0.1	5	μA
	$V_R=200\text{V}$	$T_A=25^\circ\text{C}$		2.0	20	μA
	$V_R=200\text{V}$	$T_A=125^\circ\text{C}$		-	2.5	mA
Typical junction capacitance	4V,1MHz		C_j	272		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	TO-252	Unit
Typical thermal resistance ³⁾	$R_{\theta jc}$	1.8	$^\circ\text{C/W}$

3.Thermal resistance from junction to case

AVAILABLE PACK INFORMATION

Product code	Pack	Box Size L×W×H(mm)	Quantity(pcs/box)	Carton SizeL×W×H(mm)	Quantity(box/carton)
SR20200LM3-TO-252	Tube	558×148×38	4000	565×225×170	5
SR20200LM3-TO-252	Tape & reel(13")	346×346×23	2500	364×364×250	10

FIG.1-FORWARD CURRENT DERATING CURVE

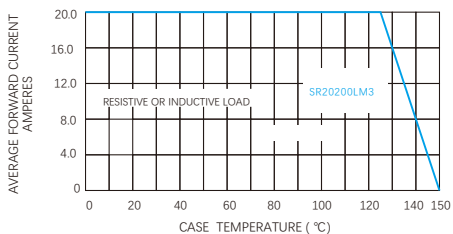


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

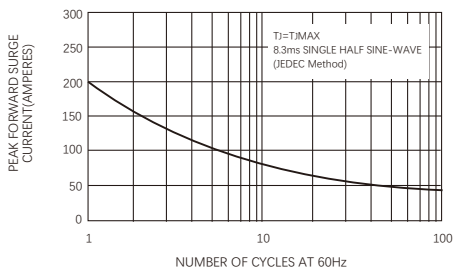


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

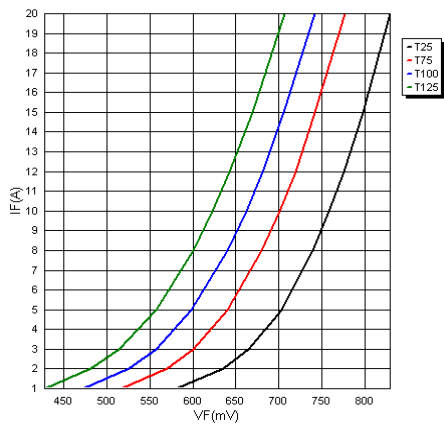


FIG.4-TYPICAL REVERSE CHARACTERISTICS

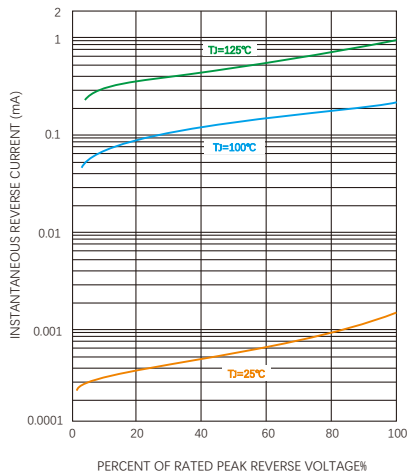
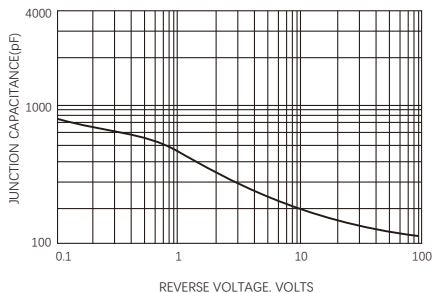
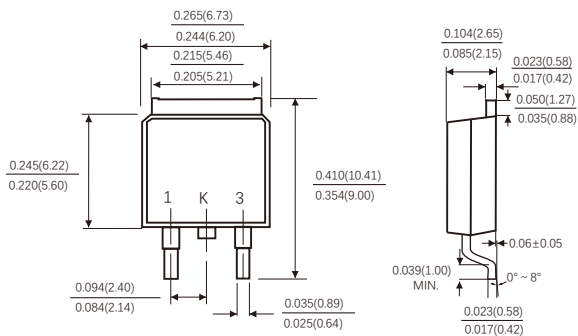


FIG.5-TYPICAL JUNCTION CAPACITANCE

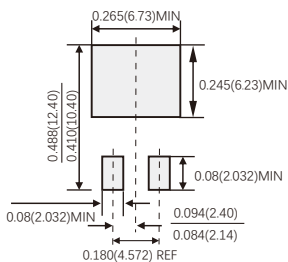


TO-252



Suggested Pad Layout

(TO-252)



(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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