

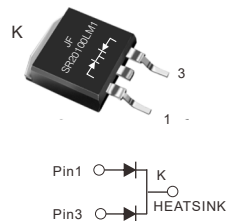
FEATURES

- 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, LF MAX peak of 260°C for TO-252 package
- Component in accordance to RoHS 2015/863/EU



RoHS
COMPLIANT

TO-252
SR20100LM1



MECHANICAL DATA

- Case: JEDEC TO-252
- 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

MAXIMUM RATINGS

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

PRIMARY CHARACTERISTICS	
I _{F(AV)}	2×10A
V _R RM	100V
I _{FSM}	200A
V _F at I _F =10.0A(25°C)	0.70V
I _R	15 µ A
T _J (MAX)	150°C
Package	TO-252
Diode variations	Common cathode

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V _R RM	100	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 tp=2 µ s 1 KHz	I _{RRM}	0.5	A
Operating junction and Storage temperature range	T _J ,T _{stg}	-55 to+150	°C

RATINGS AND CHARACTERISTIC OF SR20100LM1

ELECTRICAL CHARACTERISTICS (T_A=25°C Unless otherwise noted)

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instantaneous forward voltage	Per leg I _F =10.0A	T _A =25°C	V _F ¹⁾	0.70	0.75	V
		T _A =100°C		0.68	–	
		T _A =125°C		0.67	–	
	Per leg I _F =5.0A	T _A =25°C		0.55	–	
		T _A =100°C		0.52	–	
		T _A =125°C		0.50	–	
Reverse current	V _R =100V	T _A =25°C	I _R ²⁾	–	50	μA
		T _A =100°C		–	5	mA
		T _A =125°C		–	20	
Typical junction capacitance	4V, 1MHz		C _J	370		pF

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

2. Pulse test: pulse width ≤ 40ms

THERMAL CHARACTERISTICS

Parameter	Symbol	TO-252	Unit
Typical thermal resistance ³⁾	R _{θJC}	2.5	°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 Size L×W×H(mm)	Quantity (box/carton)
SR20100LM1-TO-252	TR	346×346×23	2500	364×364×250	10
	P/T	548×151×37	4500	565×225×170	5

RATINGS AND CHARACTERISTIC OF SR20100LM1

FIG.1-FORWARD CURRENT DERATING CURVE

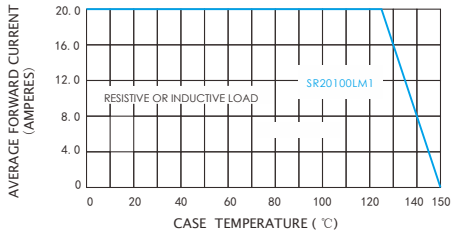


FIG.3-TYPICAL REVERSE CHARACTERISTICS

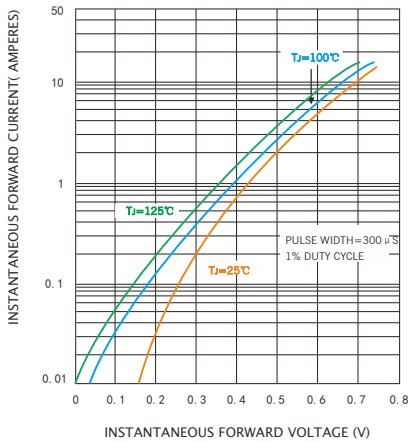


FIG.5-TYPICAL JUNCTION CAPACITANCE

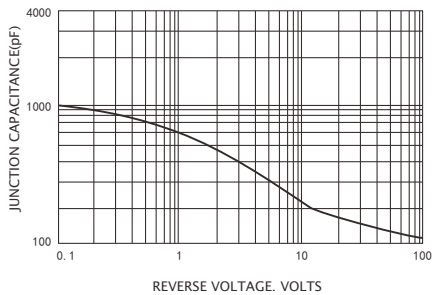


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

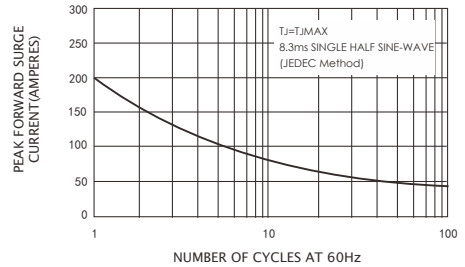
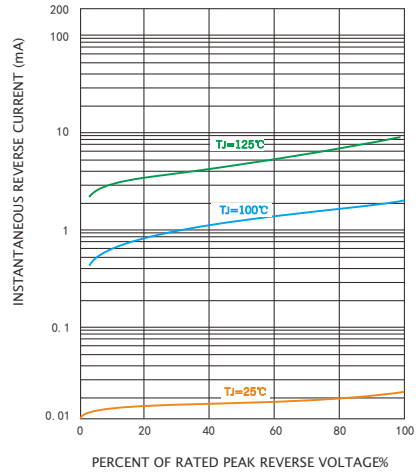


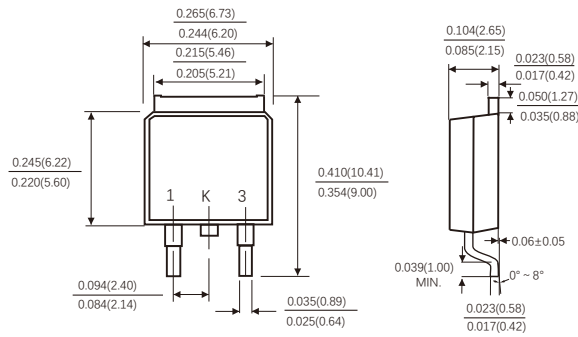
FIG.4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



PACKAGE OUTLINE DIMENSIONS

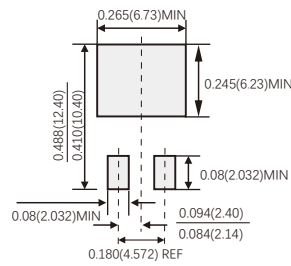
Dimensions in inches and (millimeters)

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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