

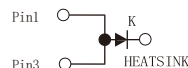
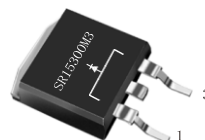
SCHOTTKY BARRIER RECTIFIER

Reverse Voltage – 300 Volts Forward
 Current – 15.0Amperes

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
- Per J-STD-020, LF MAX peak of 260°C (for T0-252 package)
- Component in accordance to RoHS 2015/863/EU

T0-252
KSR15300M3



MECHANICALDATA

- Case: JEDEC T0-252 (DPAK)
- Molding compound meets UL94V-0 flammability rating
- Terminals: Lead solderable per J-STD-002 and JESD22-B102
- Polarity: As marked

TYPICALAPPLICATIONS

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

PRIMARY CHARACTERISTICS

I_F (AV)	15A
V_{RRM}	300V
I_{SM}	150A
V_F at $I_F=15A$, 125°C	0.77V
I_A Typ, 25°C	0.5 μ A
T_J (MAX)	150°C
Package	T0-252
Diode variations	Single chip

MAXIMUM RATINGS

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

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	300	V
Maximum forward average rectified current (see fig. 1)	I_F (AV)	15.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	150	A
Operating junction and Storage temperature range	T_J , T_{stg}	-55 to+150	°C

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

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instantaneous forward voltage	$I_F=15.0\text{A}$	$T_J=25^\circ\text{C}$	V_F ¹⁾	0.90	0.95	V
		$T_J=100^\circ\text{C}$		0.80	—	
		$T_J=125^\circ\text{C}$		0.77	—	
	$I_F=5.0\text{A}$	$T_J=25^\circ\text{C}$		0.76	—	
		$T_J=100^\circ\text{C}$		0.66	—	
		$T_J=125^\circ\text{C}$		0.62	—	
Reverse current	$V_R=300\text{V}$	$T_J=25^\circ\text{C}$	I_R ²⁾	—	5.0	μA
		$T_J=100^\circ\text{C}$		—	0.5	mA
		$T_J=125^\circ\text{C}$		—	1.5	
Typical junction capacitance	4V, 1MHz		C_j	175		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	T0-252	Unit
Typical thermal resistance ³⁾	$R_{\theta JC}$	2.5	$^\circ\text{C}/\text{W}$

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)
KSR15300M3-T0-252	P/T	558×148×38	4000	565×225×170	5

FIG. 1-FORWARD CURRENT DERATING CURVE

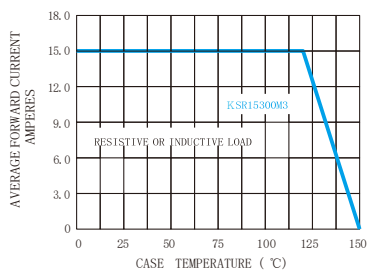


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

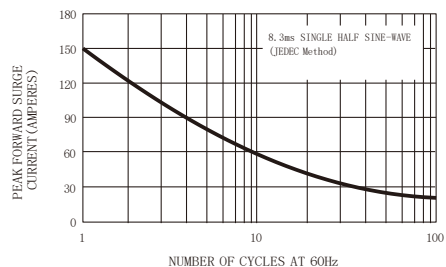


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

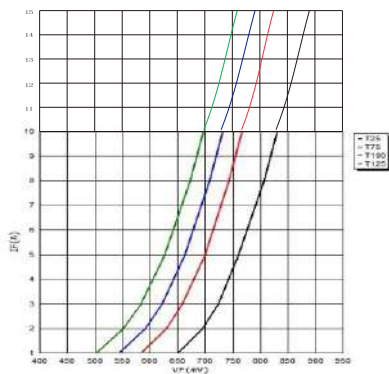


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

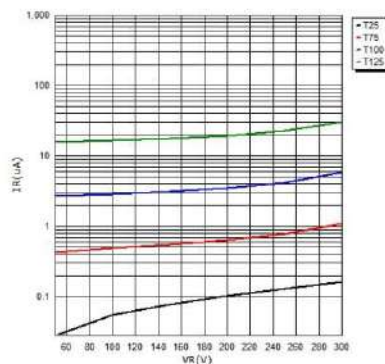
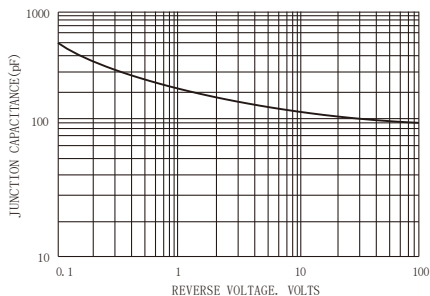
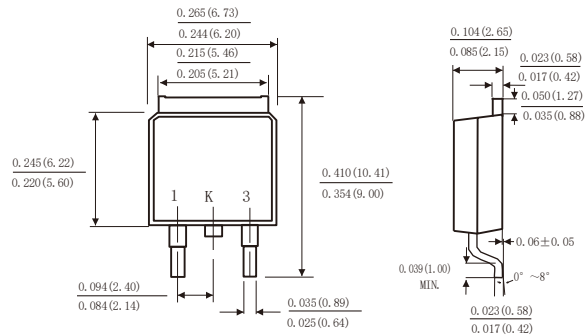


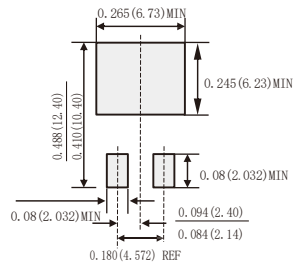
FIG. 5-TYPICAL JUNCTION CAPACITANCE



T0-252

Suggested Pad Layout

(TO-252)



(Designers can refer to the recommended values according to the manufacturing process requirements to determine the appropriate pad size)