

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 TO-263 package)
- Solder bath temperature 275°C maximum, 10s, per JESD22-B106 (for TO-220AB and ITO-220AB package)
- Component in accordance to RoHS 2015/863/EU



TO-220AB

SR60100LCT



1 2 3



ITO-220AB

SRF60100LCT

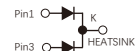


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TO-263

SR60100LD1



MECHANICAL DATA

- Case: JEDEC TO-220AB, ITO-220AB, TO-263
- Molding compound meets UL94V-0 flammability rating
- Terminals: Lead solderable per J-STD-002 and JESD22-B102
- Polarity: As marked
- Mounting Torque: 10 in-lbs maximum

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)

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	100	V
Maximum average forward rectified current (see fig.1)	Per leg	30.0	A
	Total device	60.0	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load Per Leg (JEDEC method at rated TL)	I_{FSM}	250	A
Storage temperature range	T_{stg}	-55 to+150	°C
Operating junction temperature range	T_J	-55 to+150	°C

PRIMARY CHARACTERISTICS

$I_r(AV)$	2×30A
V_{RRM}	100V
I_{FSM}	250A
V_f at $I_f=30.0A$,Per leg, $T_J=125^{\circ}C$	0.68V,Typ
$I_r, T_J=25^{\circ}C$	15μA Typ
$T_J(MAX)$	150°C
Package	TO-220AB,ITO-220AB, TO-263
Diode variations	Common cathode

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

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instaneous forward voltage	T _J =25°C	I _F =5.0A	V _F ¹⁾	0.44	-	V
		I _F =10.0A		0.52	-	
		I _F =15.0A		0.59	-	
		I _F =20.0A		0.66	-	
		I _F =30.0A		0.76	0.80	
	T _J =125°C	I _F =5.0A		0.35	-	
		I _F =10.0A		0.48	-	
		I _F =15.0A		0.56	-	
		I _F =20.0A		0.61	-	
		I _F =30.0A		0.68	0.72	
Reverse current	V _R =100V	T _J =25°C	I _R ²⁾	15	50	μA
		T _J =100°C		3.5	-	mA
		T _J =125°C		15	-	
Typical junction capacitance	4V,1MHz		C _J	1600		pF

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

2.Pulse test: pulse width≤40ms

THERMAL CHARACTERISTICS

Parameter	Symbol	TO-220AB	ITO-220AB	TO-263	Unit
Typical thermal resistance ³⁾	R _{θJC}	0.5	1.5	0.5	°C/W

3.Thermal resistance from junction to case,Total device

AVAILABALE 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)
SR60100LCT-TO-220AB	Tube	565×225×170	548×151×37	540	5	20	50	5
SRF60100LCT-ITO-220AB	Tube	565×225×170	548×151×37	540	5	20	50	5
SR60100LD1-TO-263	Tube	565×225×170	548×151×37	538	5	20	50	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)
SR60100LD1-TO-263	Reel	364×364×235	330×330×38	φ330	5	1	800	4

FIG.1-FORWARD CURRENT DERATING CURVE

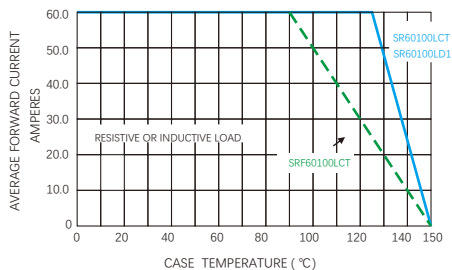


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

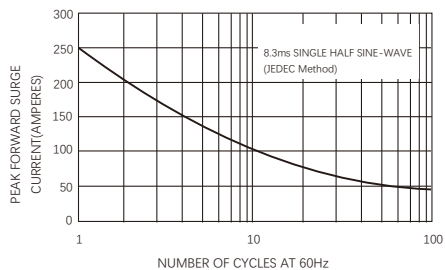


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

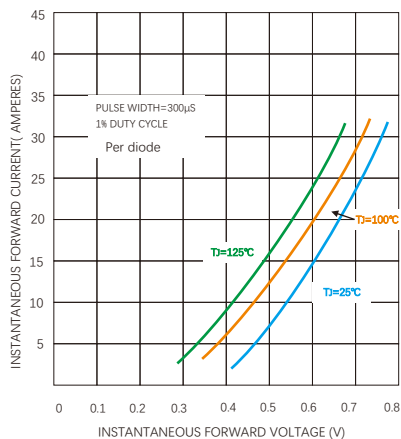


FIG.4-TYPICAL REVERSE CHARACTERISTICS

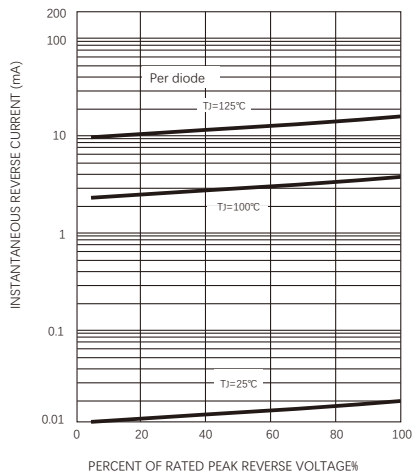
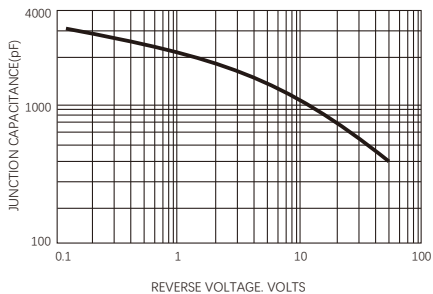
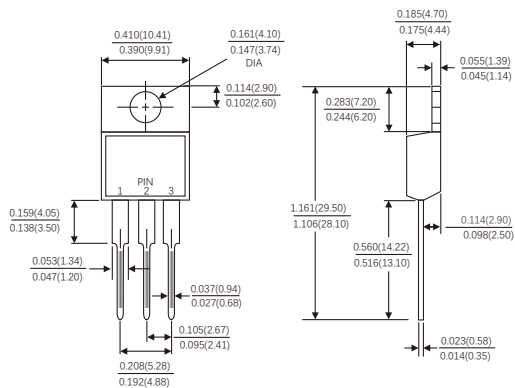


FIG.5-TYPICAL JUNCTION CAPACITANCE

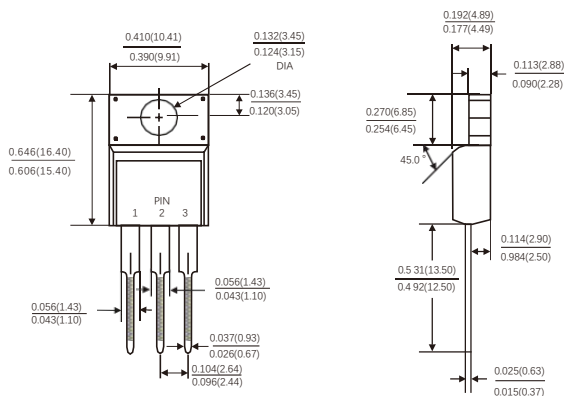


Dimensions in inches and (millimeters)

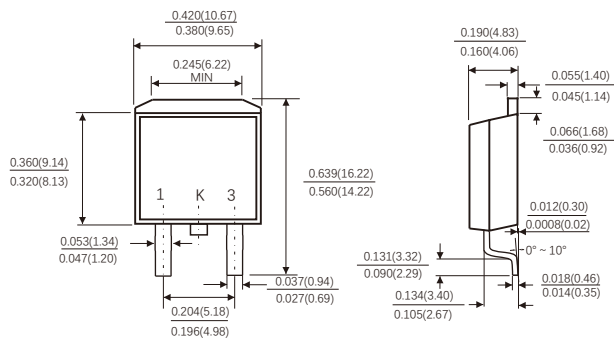
TO-220AB



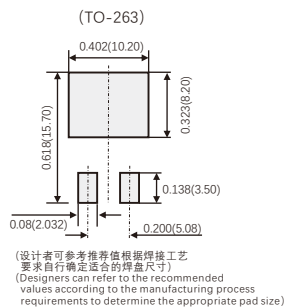
ITO-220AB



TO-263



Suggested Pad Layout



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