

FEATURES

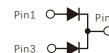
- Power pack
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High forward surge capability
- High frequency operation
- Meets MSL Level 1, per J-STD-020,LF MAX peak of 260°C (for TO-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



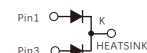
TO-220AB



ITO-220AB



TO-263
SR6045LD1



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}	45	V
Maximum average forward rectified current (see fig.1)	I _{F(AV)}	Per leg	30
		Total device	60
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	I _{FSM}	400	A
Peak repetitive reverse current per diode at tp=2μs 1KHz	I _{RRM}	2.0	A
Operating junction and Storage temperature range	T _J , T _{stg}	-55 to +150	°C
Isolation voltage(ITO-220AB only)from terminals to heatsink t=1 min	V _{AC}	1500	V

PRIMARY CHARACTERISTICS	
I _{F(AV)}	2×30A
V _{RRM}	45V
I _{FSM}	400A
V _F at I _F =30A,125°C Per leg	0.48V Typ
I _R	20μA 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
Instantaneous forward voltage	T _j =25°C	I _F =5.0A	V _F ¹⁾	0.40	-	V
		I _F =15.0A		0.47	-	
		I _F =30.0A		0.54	0.58	
	T _j =125°C	I _F =5.0A		0.28	-	
		I _F =15.0A		0.37	-	
		I _F =30.0A		0.48	0.52	
Reverse current	V _R =45V	T _j =25°C	I _R ²⁾	20	100	μA
		T _j =100°C		-	10	mA
		T _j =125°C		-	50	
Typical junction capacitance	4V,1MHz		C _j	1900		pF

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

2.Pulse test: pulse width ≤40ms

THERMAL CHARACTERISTICS

Parameter	Symbol	SR6045LCT	SRF6045LCT	SR6045LD1	Unit
Typical thermal resistance ³⁾	R _{θjc}	0.8	3.2	0.8	°C/W

3.Thermal resistance from junction to case

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)
SR6045LCT-TO-220AB	Tube	565×225×170	548×151×37	540	5	20	50	5
SRF6045LCT-ITO-220AB	Tube	565×225×170	548×151×37	540	5	20	50	5
SR6045LD1-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)
SR6045LD1-TO-263	Reel	364×364×235	330×330×38	φ330	5	1	800	4

FIG.1-FORWARD CURRENT DERATING CURVE

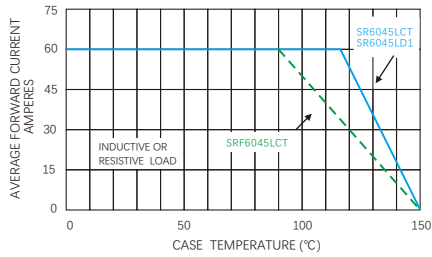


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

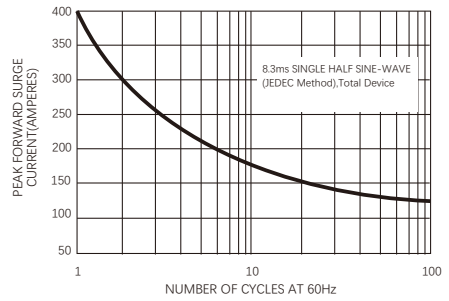


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

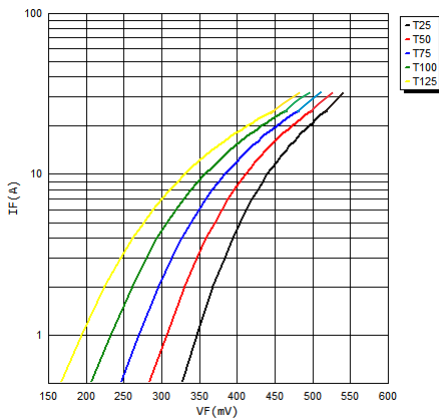


FIG.4-TYPICAL REVERSE CHARACTERISTICS

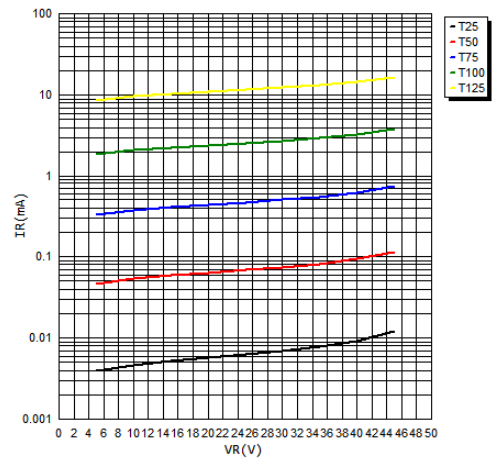
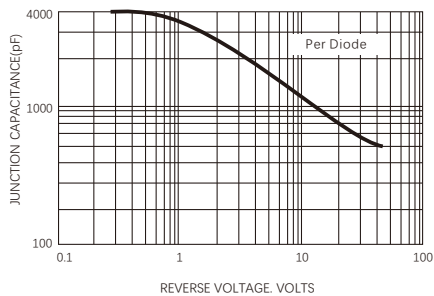
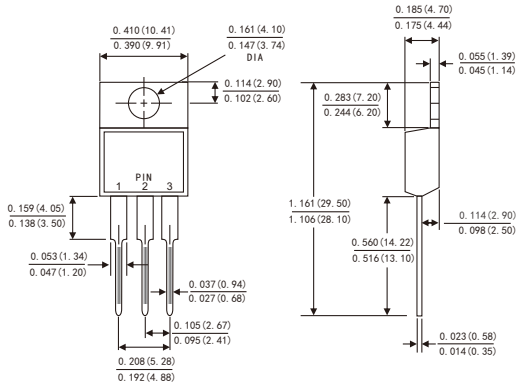


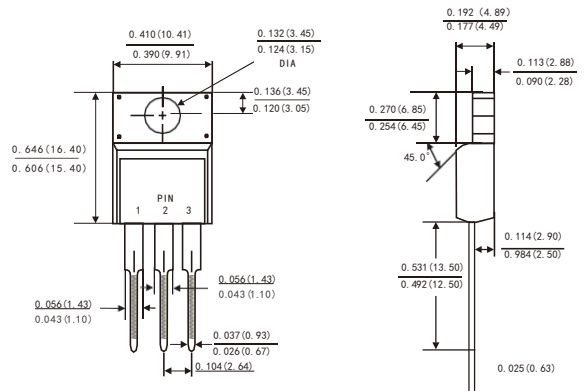
FIG.5-TYPICAL JUNCTION CAPACITANCE



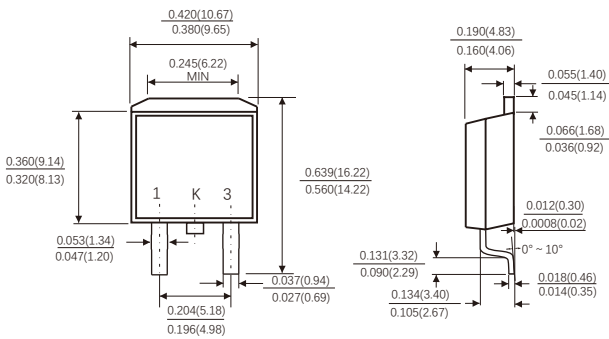
TO-220AB



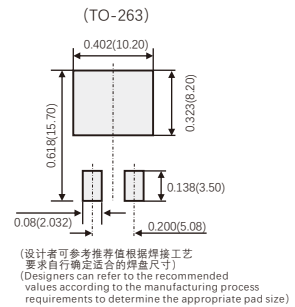
ITO-220AB



TO-263



Suggested Pad Layout



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