

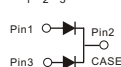
FEATURES

- 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 245°C (for TO-263,252 package)
- Solder bath temperature 275°C maximum,10s,per JESD22-B10 (for TO-220AB and ITO-220AB package)
- Component in accordance to RoHS 2011/65/EU



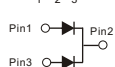
TO-220AB

SR1045LCT



ITO-220AB

SRF1045LCT



TO-252

SR1045LM1



TO-263

SR1045LD1



MECHANICAL DATA

- Case: JEDEC TO-220AB、ITO-220AB、TO-263、TO-252
- 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)

PRIMARY CHARACTERISTICS	
IF(AV)	2×5A
VRRM	45V
IFSM	150A
VF at IF=5.0A(125°C)	0.43V
IR	100 μ A
TJ(MAX)	150°C
Package	TO-220AB, ITO-220AB, TO-263, TO-252
Diode variations	Common cathode

Parameter	Symbol	SR1045LCT, SRF1045LCT, SR1045LD1, SR1045LM1	Unit
Maximum repetitive peak reverse voltage	VRRM	45	V
Maximum average forward rectified current (see fig.1)	Per leg	5.0	A
	Total device	10.0	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	IFSM	150	A
Peak repetitive reverse current per diode at tp=2 μ s 1KHz	IRRM	1.0	A
Operating junction and Storage temperature range	TJ, Tstg	-55 to +150	°C
Isolation voltage (ITO-220AB only) from terminals to heatsink t=1 min	VAC	1500	V

RATINGS AND CHARACTERISTIC OF SR1045LCT,SRF1045LCT,SR1045LD1,SR1045LM1

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

Parameter	Test Conditions		Symbol	TYP.	MAX.	Unit
Instantaneous forward voltage	Per Leg I _F =5.0A	T _A =25°C	V _F ¹⁾	0.43	0.45	V
		T _A =100°C		0.35	—	
		T _A =125°C		0.33	—	
	Per Leg I _F =3.0A	T _A =25°C		0.40	0.42	
		T _A =100°C		0.31	—	
		T _A =125°C		0.29	—	
Reverse current	V _R =60V	T _A =25°C	I _R ²⁾	100	200	μA
		T _A =100°C		10	20	mA
		T _A =125°C		70	50	
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 (T_A=25°C Unless otherwise noted)

Parameter	Symbol	SR1045LCT	SRF1045LCT	SR1045LD1	SR1045LM1	Unit
Typical thermal resistance ³⁾	R _{θJC}	2.5	4.5	2.5	2.5	°C/W

3.Thermal resistance from junction to case

AVAILABLE PACK INFORMATION

Product code	Package	Box Size L×W×H(mm)	Quantity (pcs/box)	Carton SizeL×W×H(mm)	Quantity (box/carton)
SR1045LCT-TO-220AB	P/T	558×148×38	1000	565×225×170	5
SRF1045LCT-ITO-220AB	P/T	558×148×38	1000	565×225×170	5
SR1045LD1-TO-263	P/T	558×148×38	1000	565×225×170	5
SR1045LM1-TO-252	P/T	558×148×38	4000	565×225×170	5

RATINGS AND CHARACTERISTIC OF SR1045LCT,SRF1045LCT,SR1045LD1,SR1045LM1

FIG.1-FORWARD CURRENT DERATING CURVE

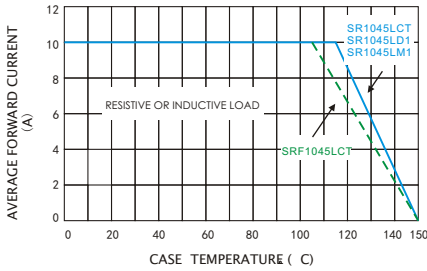


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

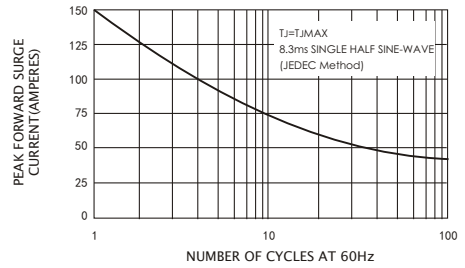


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

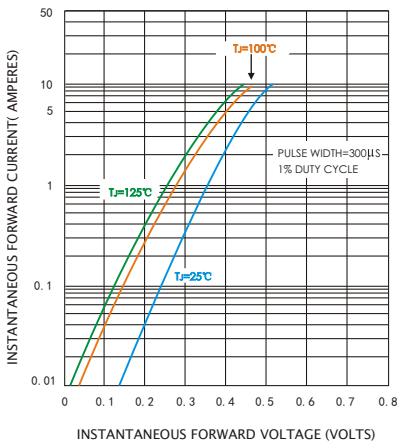


FIG.4-TYPICAL REVERSE CHARACTERISTICS

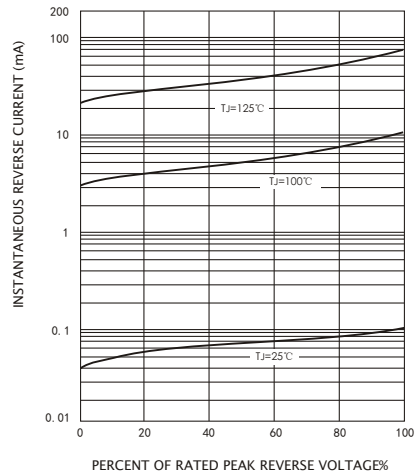
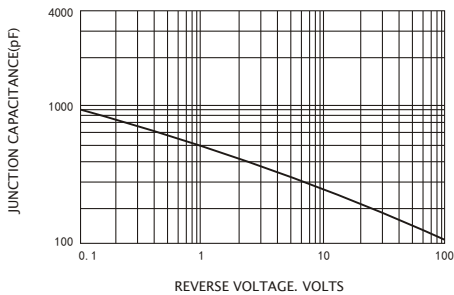


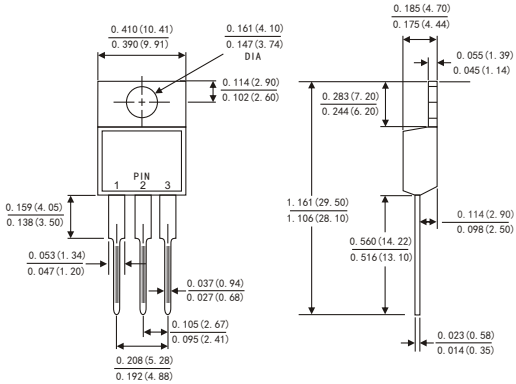
FIG.5-TYPICAL JUNCTION CAPACITANCE



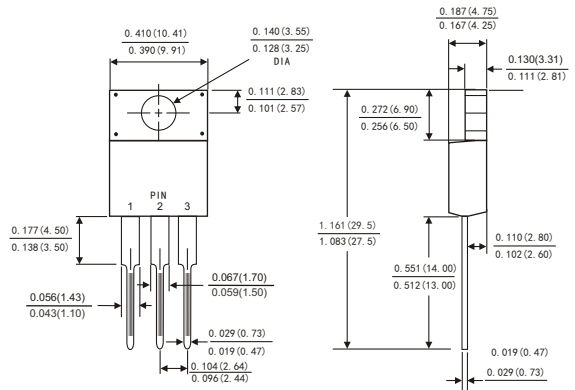
PACKAGE OUTLINE DIMENSIONS

Dimensions in inches and (millimeters)

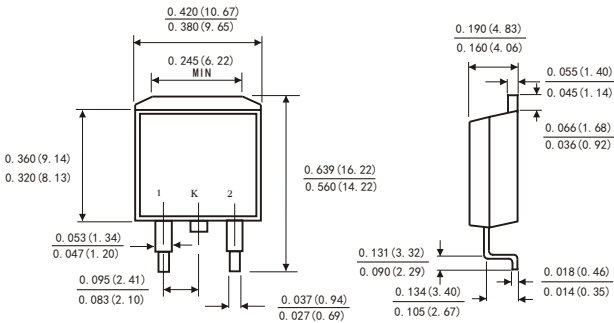
TO-220AB



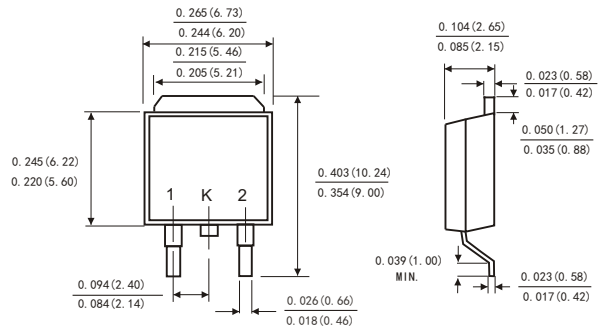
ITO-220AB



TO-263

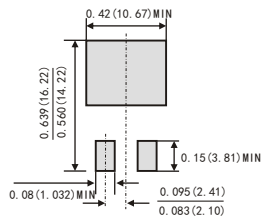


TO-252



Suggested Pad Layout

(TO-263)



Suggested Pad Layout

(TO-252)

