

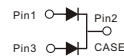
### FEATURES

- 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 package)
- Solder bath temperature 275°C maximum, 10s, per JESD22-B106 (for TO-220AB and ITO-220AB package)
- Component in accordance to RoHS 2011/65/EU



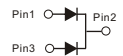
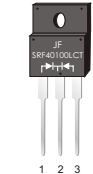
TO-220AB

SR40100LCT



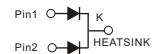
ITO-220AB

SRF40100LCT



TO-263

SR40100LD1



### 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	SR40100LCT, SRF40100LCT,SR40100LD1	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	100	V
Maximum average forward rectified current (see fig.1)	Per leg	20.0	A
	Total device	40.0	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	$I_{FSM}$	300	A
Peak repetitive reverse current per diode at $t_p=2 \mu s$ 1KHz	$I_{RRM}$	0.5	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	
$I_F(AV)$	2×20A
$V_{RRM}$	100V
$I_{FSM}$	300A
$V_f$ at $I_F=20.0A$ ,Per leg	0.65V
$I_R$	30 $\mu A$
$T_J(MAX)$	150°C
Package	TO-220AB, ITO-220AB, TO-263
Diode variations	Common cathode

## RATINGS AND CHARACTERISTIC OF SR40100LCT,SRF40100LCT,SR40100LD1

### ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C Unless otherwise noted)

Parameter	Test Conditions		Symbol	TYP.	MAX.	Unit
Instantaneous forward voltage	Per leg I <sub>F</sub> =20.0A	T <sub>A</sub> =25°C	V <sub>F</sub> 1)	0.65	0.70	V
		T <sub>A</sub> =100°C		0.63	—	
		T <sub>A</sub> =125°C		0.60	—	
	Per leg I <sub>F</sub> =5.0A	T <sub>A</sub> =25°C		0.45	—	
		T <sub>A</sub> =100°C		0.44	—	
		T <sub>A</sub> =125°C		0.43	—	
Reverse current	V <sub>R</sub> =100V	T <sub>A</sub> =25°C	I <sub>R</sub> 2)	30	60	μA
		T <sub>A</sub> =100°C		3	5	mA
		T <sub>A</sub> =125°C		12	20	
Typical junction capacitance	4V, 1MHz		C <sub>J</sub>	570		pF

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

2.Pulse test: pulse width≤40ms

### THERMAL CHARACTERISTICS (T<sub>A</sub>=25°C Unless otherwise noted)

Parameter	Symbol	SR40100LCT	SRF40100LCT	SR40100LD1	Unit
Typical thermal resistance <sup>3)</sup>	R <sub>θJC</sub>	2.5	4.5	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 SizeL×W×H(mm)	Quantity (box/carton)
SR40100LCT-TO-220AB	P/T	558×148×38	1000	565×225×170	5
SRF40100LCT-ITO-220AB	P/T	558×148×38	1000	565×225×170	5
SR40100LD1-TO-263	P/T	558×148×38	1000	565×225×170	5

# RATINGS AND CHARACTERISTIC OF SR40100LCT,SRF40100LCT,SR40100LD1

FIG.1-FORWARD CURRENT DERATING CURVE

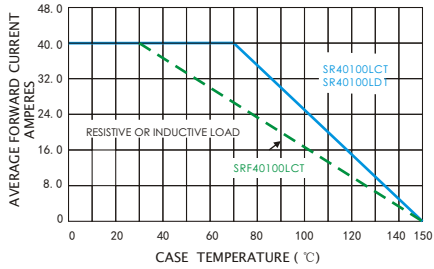


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

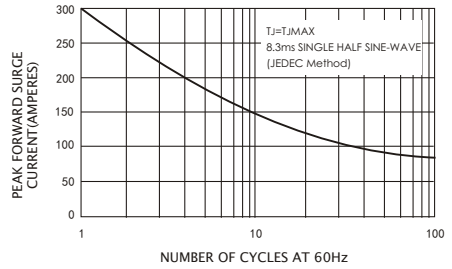


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

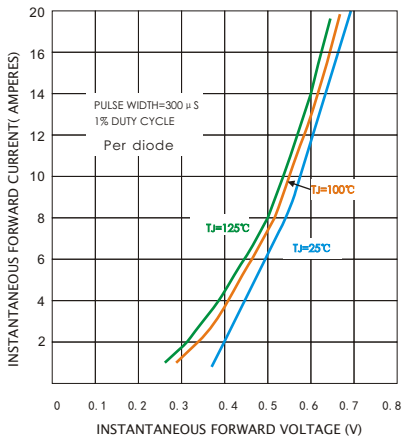


FIG.4-TYPICAL REVERSE CHARACTERISTICS

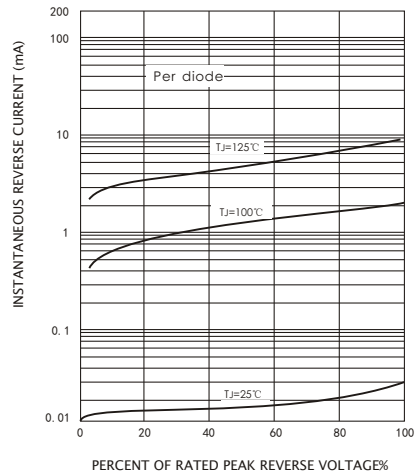
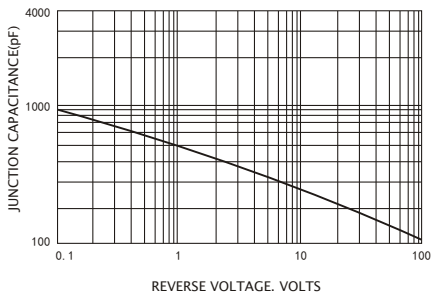
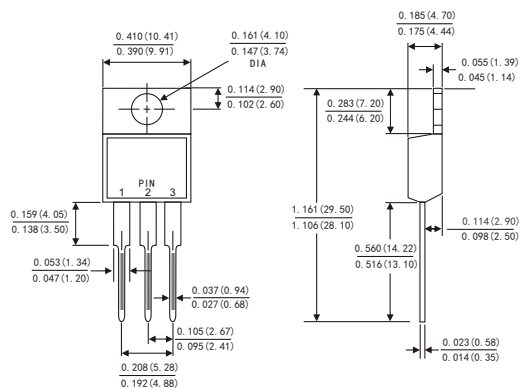


FIG.5-TYPICAL JUNCTION CAPACITANCE

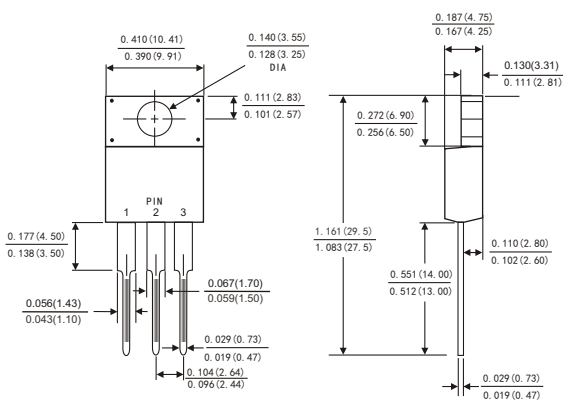


# PACKAGE OUTLINE DIMENSIONS

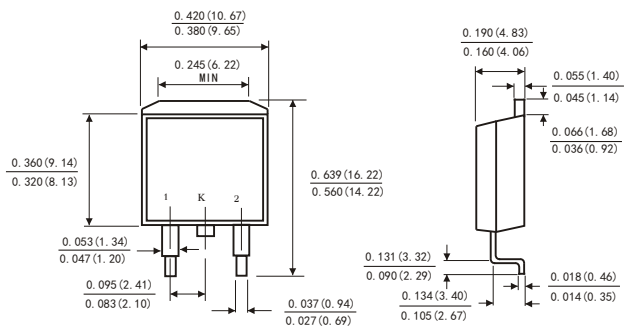
## TO-220AB



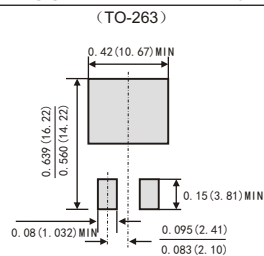
## ITO-220AB



## TO-263



## Suggested Pad Layout



Dimensions in inches and (millimeters)