

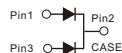
### FEATURES

- 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

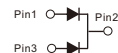


RoHS  
COMPLIANT

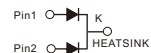
TO-220AB



ITO-220AB



TO-263  
SR20250D1



### 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	$V_{RRM}$	250	V
Maximum average forward rectified current (see fig.1)	Per leg	10.0	A
	Total device	20.0	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	$I_{FSM}$	150	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	
$I_F(AV)$	2×10A
$V_{RRM}$	250V
$I_{FSM}$	150A
$V_F$ at $I_F=10.0A(125^\circ C)$	0.72V
$I_r$	5 $\mu A$
$T_J(MAX)$	150°C
Package	TO-220AB, ITO-220AB, TO-263
Diode variations	Common cathode

## RATINGS AND CHARACTERISTIC OF SR20250CT,SRF20250CT,SR20250D1

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

Parameter	Test Conditions		Symbol	TYP.	MAX.	Unit
Instantaneous forward voltage	Per leg IF=10.0A	T <sub>A</sub> =25°C	V <sub>F</sub> <sup>1)</sup>	0.86	0.95	V
		T <sub>A</sub> =100°C		0.75	—	
		T <sub>A</sub> =125°C		0.72	—	
	Per leg IF=5.0A	T <sub>A</sub> =25°C		0.80	0.85	
		T <sub>A</sub> =100°C		0.68	—	
		T <sub>A</sub> =125°C		0.65	—	
Reverse current	V <sub>R</sub> =250V	T <sub>A</sub> =25°C	I <sub>R</sub> <sup>2)</sup>	1	5	μA
		T <sub>A</sub> =100°C		10	50	
		T <sub>A</sub> =125°C		100	500	
Typical junction capacitance	4V, 1MHz		C <sub>J</sub>	154		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 <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)
SR20250CT-TO-220AB	P/T	558×148×38	1000	565×225×170	5
SRF20250CT-ITO-220AB	P/T	558×148×38	1000	565×225×170	5
SR20250D1-TO-263	P/T	558×148×38	1000	565×225×170	5

# RATINGS AND CHARACTERISTIC OF SR20250CT,SRF20250CT,SR20250D1

FIG.1-FORWARD CURRENT DERATING CURVE

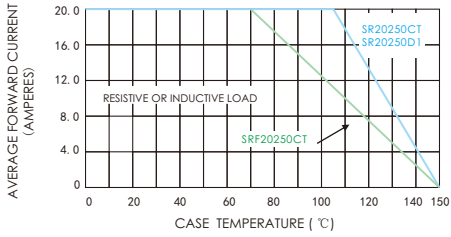


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

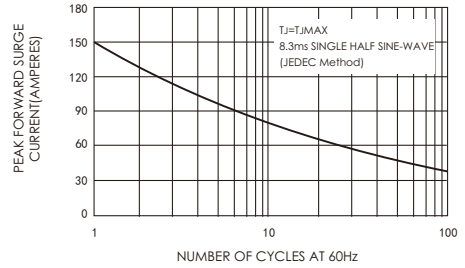


FIG.3-TYPICAL REVERSE CHARACTERISTICS

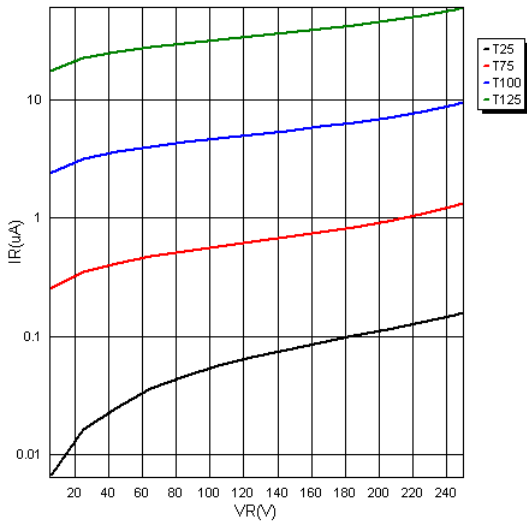


FIG.4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

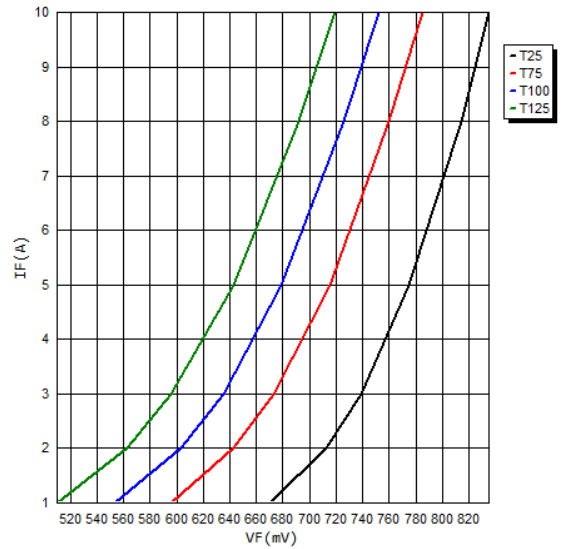
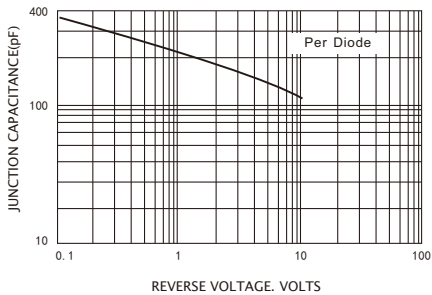
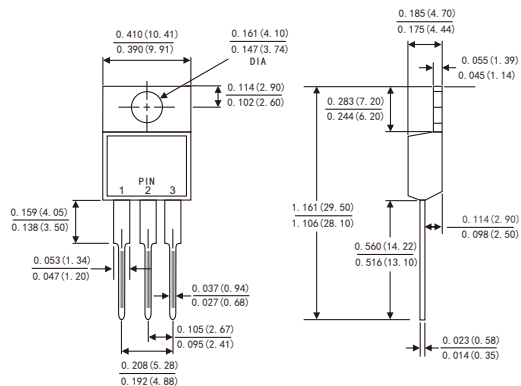


FIG.5-TYPICAL JUNCTION CAPACITANCE

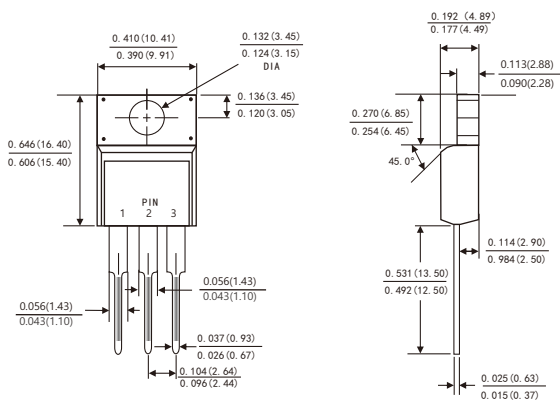


# PACKAGE OUTLINE DIMENSIONS

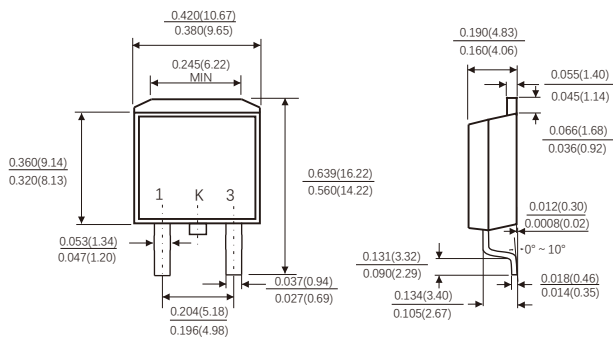
## TO-220AB



## ITO-220AB

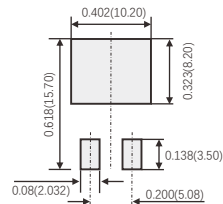


## TO-263



## Suggested Pad Layout

(TO-263)



(设计者可参考推荐值根据焊接工艺要求自行确定适合的焊盘尺寸)  
(Designers can refer to the recommended values according to the manufacturing process requirements to determine the appropriate pad size)

Dimensions in inches and (millimeters)