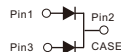


## FEATURES

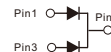
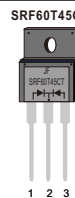
- Power pack
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High forward surge capability
- High frequency operation
- Meets MSL Level 1, per J-STD-020, LF MAX peak of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



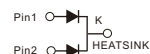
TO-220AB



ITO-220AB



TO-263  
SR60T45D1



## 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)	Per leg	30.0	A
	Total device	60.0	
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 $t_p=2 \mu s$ 1 KHz	$I_{RRM}$	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	
$I_r(AV)$	$2 \times 30A$
$V_{RRM}$	45V
$I_{FSM}$	300A
$V_F$ at $I_F=30.0A$ , Per leg	0.52V
$I_r$	60 $\mu A$
$T_J(MAX)$	150°C
Package	TO-220AB, ITO-220AB, TO-263
Diode variations	Common cathode

# RATINGS AND CHARACTERISTIC OF SR60T45CT,SRF60T45CT,SR60T45D1

## 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> =30.0A	T <sub>A</sub> =25°C	V <sub>F</sub> <sup>1)</sup>	0.52	0.60	V
		T <sub>A</sub> =100°C		0.49	–	
		T <sub>A</sub> =125°C		0.48	–	
	Per leg I <sub>F</sub> =10.0A	T <sub>A</sub> =25°C		0.43	–	
		T <sub>A</sub> =100°C		0.35	–	
		T <sub>A</sub> =125°C		0.33	–	
Reverse current	V <sub>R</sub> =45V	T <sub>A</sub> =25°C	I <sub>R</sub> <sup>2)</sup>	60	150	μA
		T <sub>A</sub> =100°C		8	15	mA
		T <sub>A</sub> =125°C		20	50	

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>	0.8	2	0.8	°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)
SR6045CT-TO-220AB	P/T	558×148×38	1000	565×225×170	5
SRF6045CT-ITO-220AB	P/T	558×148×38	1000	565×225×170	5
SR6045D1-TO-263	P/T	558×148×38	1000	565×225×170	5

# RATINGS AND CHARACTERISTIC OF SR60T45CT,SRF60T45CT,SR60T45D1

FIG.1-FORWARD CURRENT DERATING CURVE

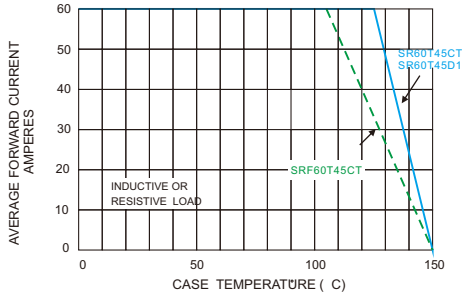


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

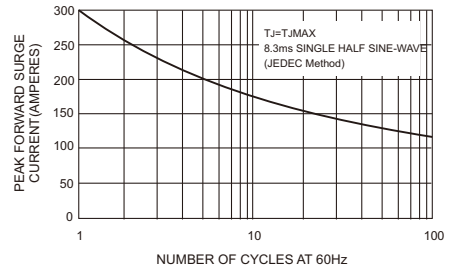


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

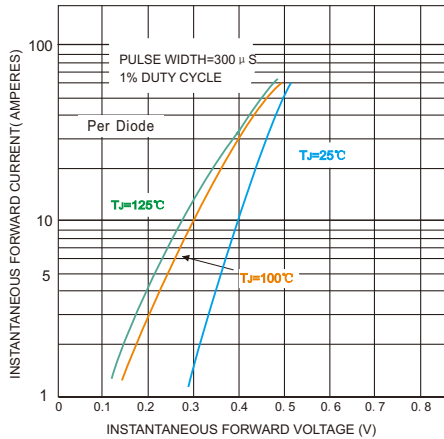
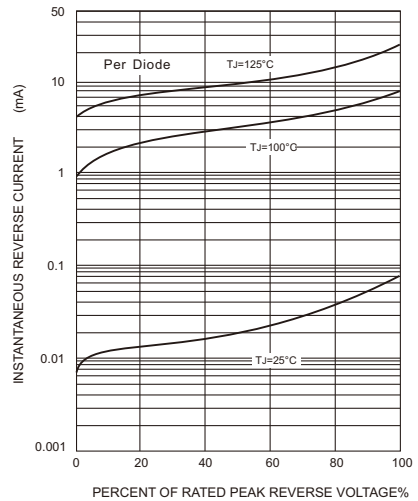
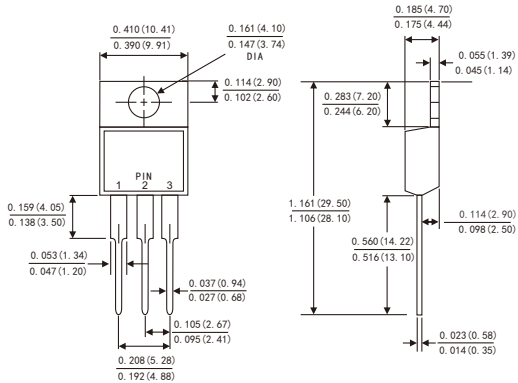


FIG.4-TYPICAL REVERSE CHARACTERISTICS

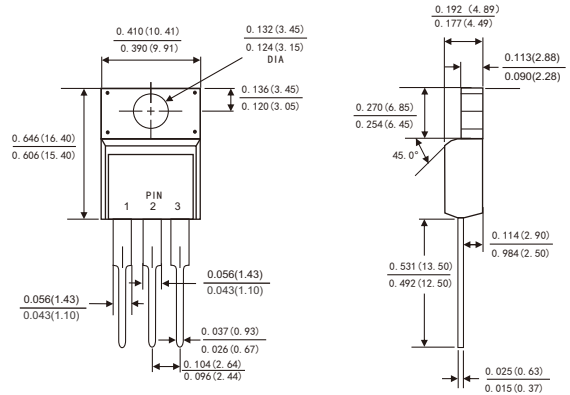


# PACKAGE OUTLINE DIMENSIONS

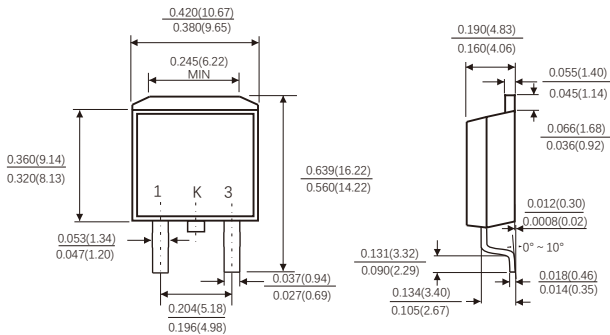
## TO-220AB



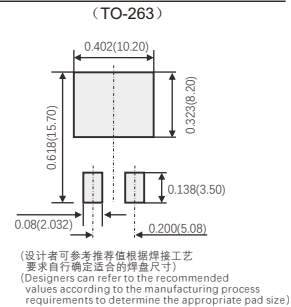
## ITO-220AB



## TO-263



## Suggested Pad Layout



Dimensions in inches and (millimeters)