

## GENERAL DESCRIPTION

<b>IF(AV)</b>	30(2x15)A
<b>VRRM</b>	45V
<b>Tj</b>	150°C
<b>VF</b>	0.45V

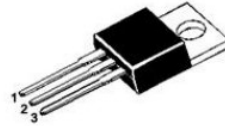
## Features

- Very Low forward voltage
- High current capability
- High forward surge capability
- Low power losses, High efficiency
- Guarding for over voltage protection

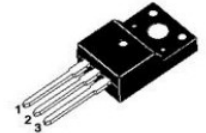
## Application

• Low VF Schottky Barrier rectifier are designed for high frequency, miniature switched mode power supplies such as adapters, lighting and on-board DC/DC converters .

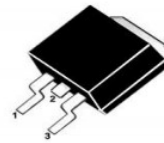
## Pin Description



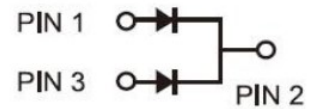
TO-220AB/CT



TO-220F/FCT



TO-263/DC



Part Number	Package	Marking	ROHS Status	Packing
SI30L45CT	TO-220AB	SI30L45CT	Pb-Free	Box(Tube)
SI30L45FCT	TO-220F	SI30L45FCT		
SI30L45DC	TO-263	SI30L45DC		Tape&Reel

## Maximum Ratings (Per Leg) at Ta=25°C unless otherwise specified

Characteristics	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	VRRM	45	V
Working Peak Reverse Voltage	VRWM	45	V
Maximum DC Blocking Voltage	VDC	45	V
Maximum Average Forward Rectified Current	Io	15	A
		30	
Peak Forward Surge Current,8.3 ms Single Half Sine-wave	IFSM	250	A
Operating Temperature Range	TJ	-50~150	°C
Storage Temperature Range	TSTG	-50~150	°C
Typical Thermal Resistance (Note1)	RθJC	2	°C/W
		TO-220AB,TO-263	
		TO-220F	

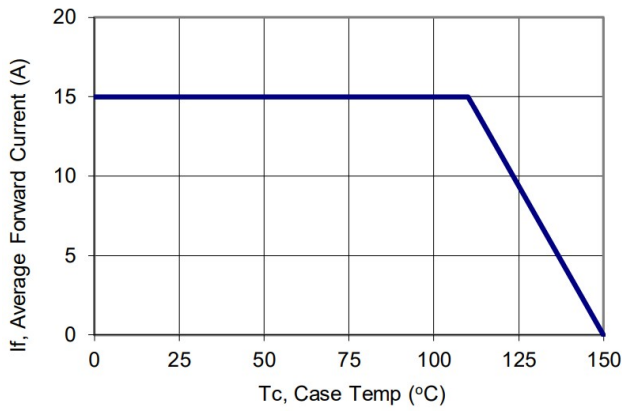
Note1: Thermal resistance from Junction to case per leg mounted on heat-sink.

## Electrical Characteristics (Per Leg) unless otherwise specified

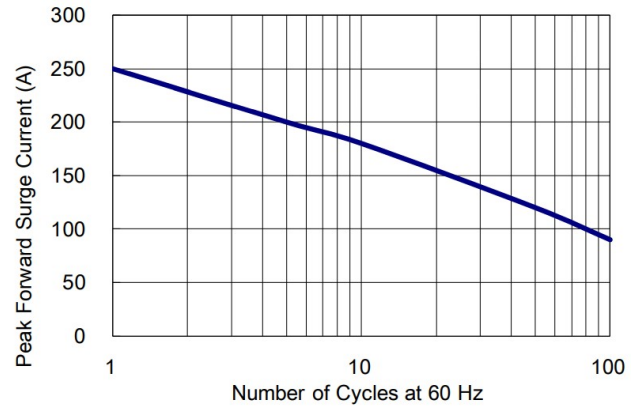
Characteristics		Symbol	Value		Unit
Forward Voltage Drop(Note2)		V <sub>F</sub>	Typ.	Max.	V
at I <sub>F</sub> =5A	TA=25°C		0.39	0.44	
	TA=125°C		0.30	-	
at I <sub>F</sub> =10A	TA=25°C		0.465	0.49	
	TA=125°C		0.38	-	
at I <sub>F</sub> =15A	TA=25°C		-	0.53	
	TA=125°C		0.45	0.48	
Maximum Reverse Current at V <sub>R</sub> =45V	TA=25°C		I <sub>R</sub>	-	
	TA=125°C	10		-	mA

Note2: Pulse test: 300 μs pulse width, 1 % duty cycle

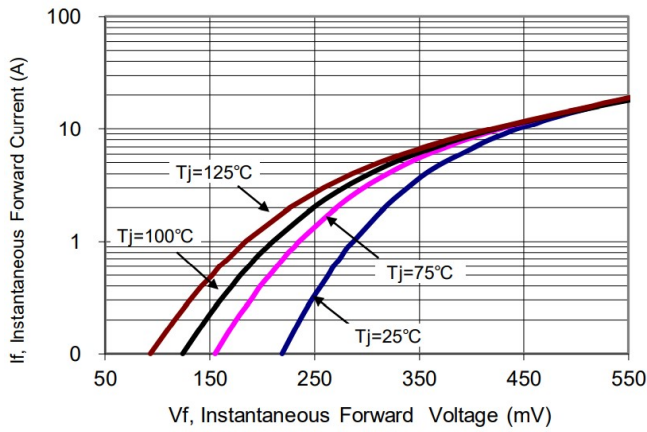
## RATINGS AND CHARACTERISTIC CURVES



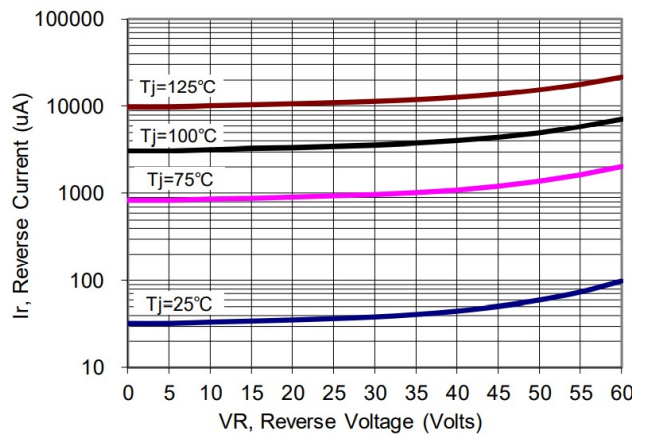
**Figure 1: Current Derating, Case**



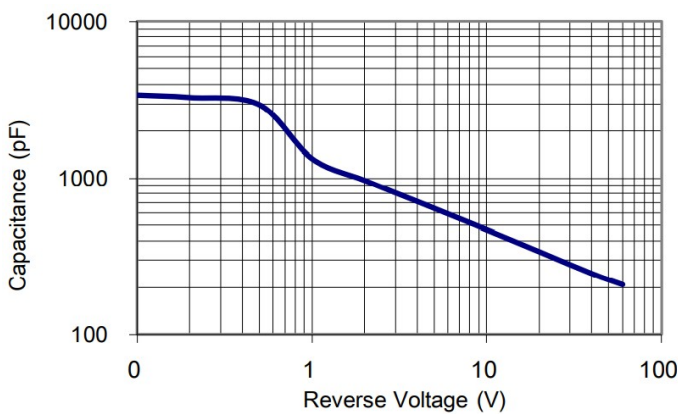
**Figure 2: Maximum Repetitive Surge Current**



**Figure 3: Typical Forward Voltage**

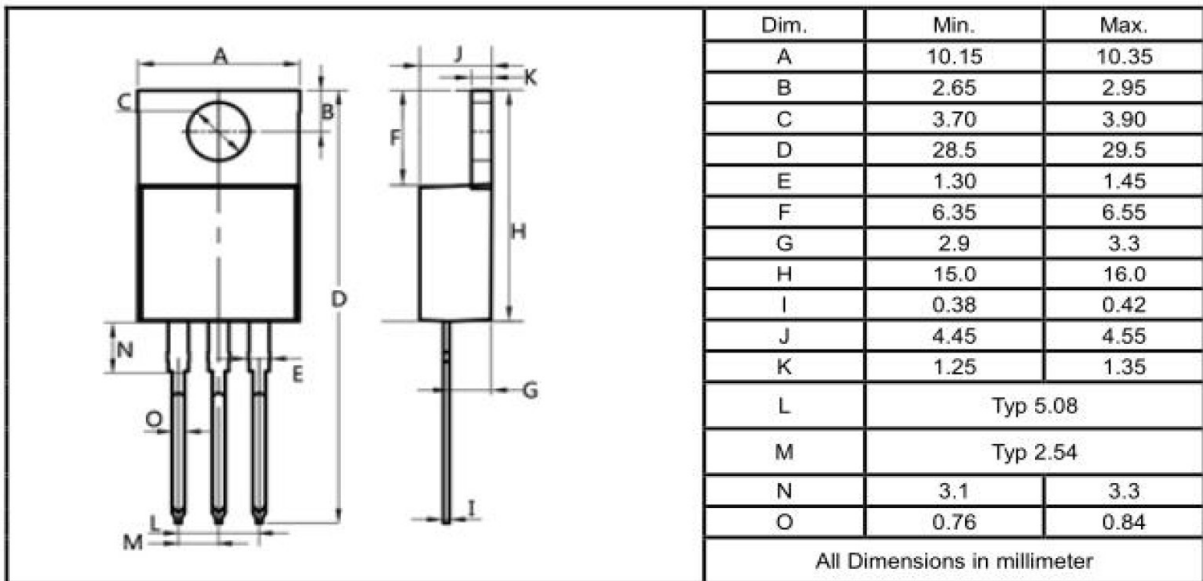
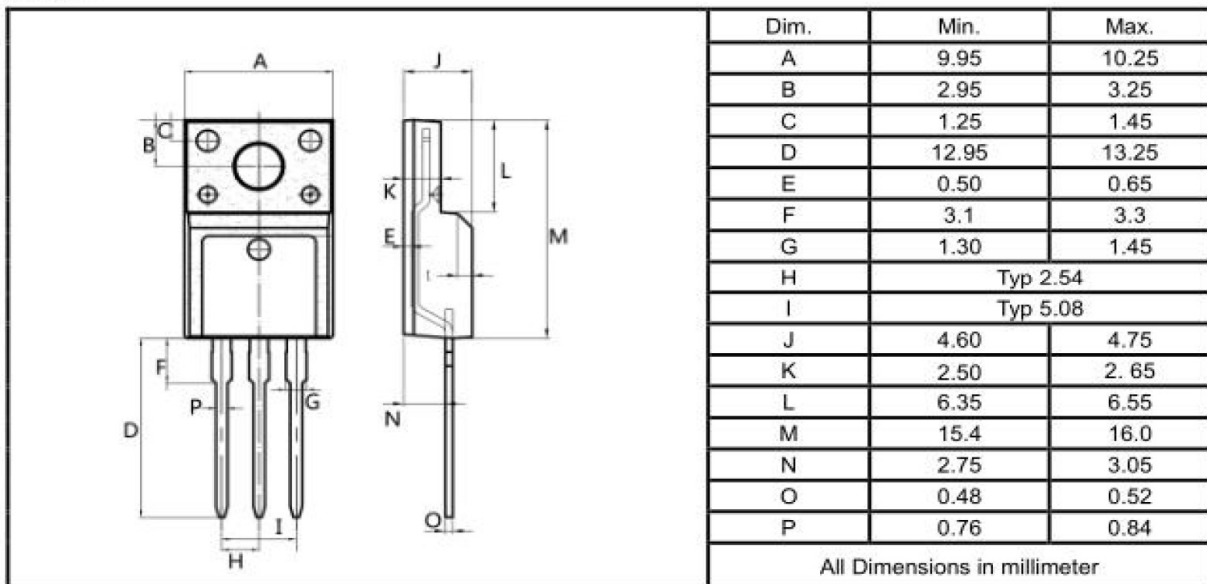
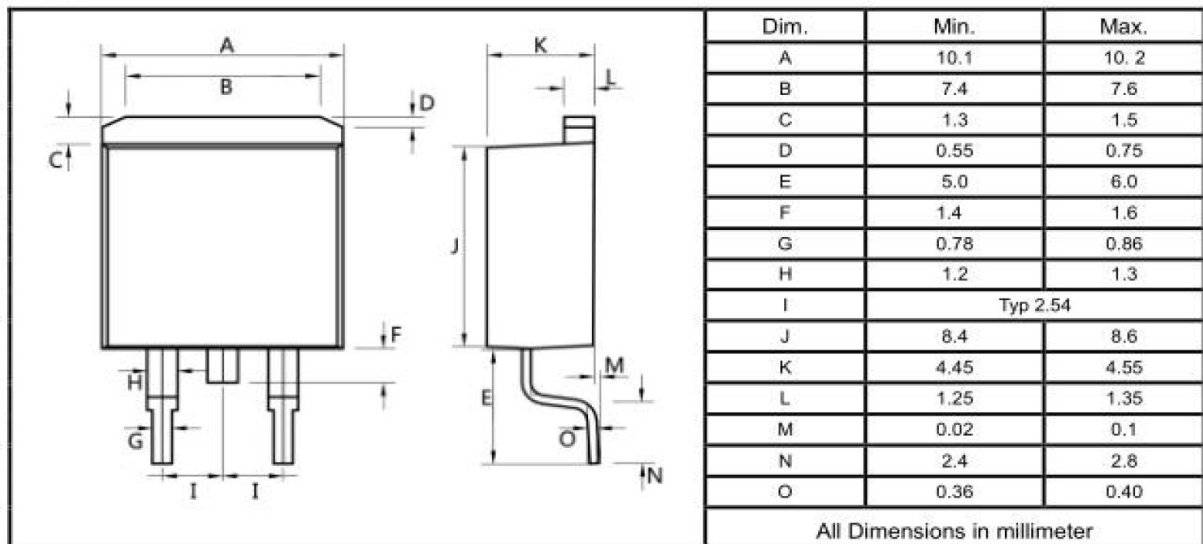


**Figure 4: Typical Reverse Current**



**Figure 5: Typical Junction Capacitance**

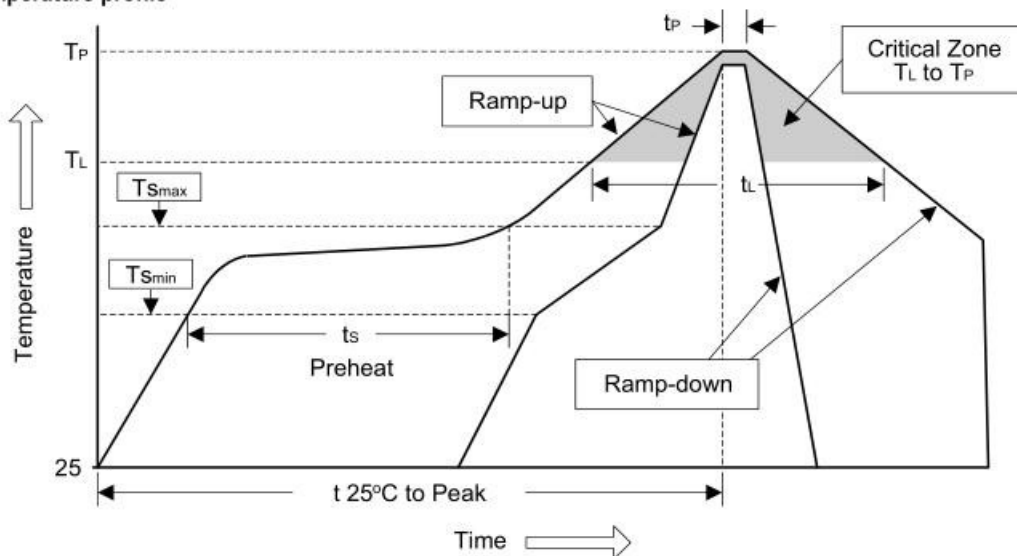
## Package Outline Dimensions millimeters

**TO-220AB**

**TO-220F**

**TO-263**


## Soldering Methods for Products

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Average ramp-up rate(TL to TP)	<3°C/sec	<3°C/sec
Preheat	-	-
-Temperature Min(Ts min)	100°C	150°C
-Temperature Max(Ts max)	150°C	200°C
-Time(min to max)(ts)	60 to 120 sec	60 to 180 sec
Ts max to TL		
- ramp-up rate	<3°C/sec	<3°C/sec
Time maintained above:		
-Temperature(TL)	183°C	217°C
-Time(TL)	60 to 150 sec	60 to 150 sec
Peak Temperature(TP)	240°C+0/-5°C	250°C+0/-5°C
Time within 5°C of actual Peak Temperature	10 to 30 sec	20 to 40 sec
Ramp-down Rate	<6°C/sec	<6°C/sec
Time 25 °C to Peak Temperature	<6 minutes	<8 minutes

Figure 1: Temperature profile



**Note :**

- 1.Storage environment: Temperature=10°C to 35@Humidity=45%±15%
- 2.Reflow soldering of surface-mount devices
- 3.Flow(wave) soldering(solder dipping)

Products	Peak Temperature	Dipping Time
Pb devices	245°C±5°C	5sec±1sec
Pb-free devices	250°C+0/-5°C	5sec±1sec

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Any semiconductor under specific conditions are possible to certain failure or malfunction rate; Customers are responsible in the use of Si-Trend products to system design and manufacturing in compliance with safety standards and adopting safety measures, To avoid the potential risk of failure may cause the personal safety and property loss.

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**■ Modify Record**

<b>Date</b>	<b>Version</b>	<b>Description</b>	<b>Pagination</b>
20210615	B.1	original	6