

CURRENT 30 Ampere
 VOLTAGE RANG 45 to 150 Volts

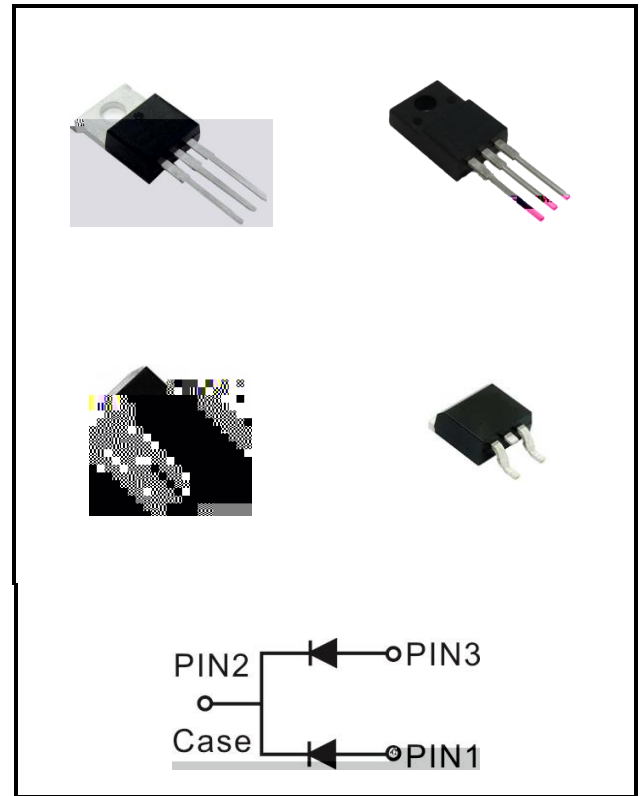
SBT3045VCT THRU SBT30150VFCT

Features

- › Low Forward Voltage Drop
- › Reliable High Temperature Operation
- › Softest, Fast Switching Capability
- › 150 Operating Junction Temperature
- › Lead Free Finish, RoHS Compliant

Typical Applications

Device optimized for ultra-low forward voltage drop to maximize efficiency in Power Supply applications



Characteristics

Maximum Ratings Characteristics ($T_A = 25$ unless otherwise specified)

Parameter	Symbol	SBT3045 VCT/VFCT	SBT3060 VCT/VFCT	SBT30100 VCT/VFCT	SBT30150 VCT/VFCT	Units
DC Blocking Voltage	V_{RM}	45	60	100	150	Volts
Peak Repetitive Reverse Voltage	V_{RRM}					
Average Rectified Forward Current Per device 15A*2 (Rated V_R -20Khz Square Wave) - 50% duty cycle	I_o	30				Amps
D	D					
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I_{RRM}	2				Amps
Typical Thermal Resistance (per leg) Package = TO-220AB Package = TO-262 TO-263 Package = ITO-220AB	R_{Jc}	2 3 4				/W
Human Body Model ESD Protection (TO-220)	ESD HBM	8				KV
Maximum Rate of Voltage Change (at Rated V_R)	dv/dt	10000				V/uS
Operating Junction Temperature	T_J					
Storage Junction Temperature	T_{STG}					

Electrical Characteristics - (per leg) (T_A = 25 unless otherwise specified)

	Parameter	Test Conditions	Symbol	Typ.	Max.	Units				
SBT3045VCT/VFCT	Instantaneous Forward Voltage	I _F = 6 A	T _j = 25	0.34	-----	Volts				
		I _F = 15 A		0.45	0.49					
		I _F = 6 A	T _j = 125	0.30	-----					
		I _F = 15 A		0.40	0.45					
	Reverse Current	V _R = 36 V	T _j = 25	8	-----	uA				
		V _R = 45 V		18	80					
		V _R = 36 V		-----	10					
		V _R = 45 V		0.40	-----					
		V _R = 6 A		0.50	0.54					
		V _R = 15 A		0.34	-----					
SBT3060VCT/VFCT	Instantaneous Forward Voltage	I _F = 6 A	T _j = 25	0.52	-----	Volts				
		I _F = 15 A		0.64	0.70					
		I _F = 6 A	T _j = 125	0.44	-----					
		I _F = 15 A		0.58	0.62					
	Reverse Current	V _R = 70 V	T _j = 25	8	-----	uA				
		V _R = 100 V		20	80					
		V _R = 70 V		-----	-----		mA			
		V _R = 100 V		-----	10		mA			
		SBT30100VCT/VFCT		Instantaneous Forward Voltage	I _F = 6 A		T _j = 25	0.63	-----	Volts
					I _F = 15 A			0.73	0.78	
I _F = 6 A	T _j = 125		0.49		-----					
I _F = 15 A			0.70		0.75					
Reverse Current	V _R = 105 V		T _j = 25	8	-----	uA				
	V _R = 150 V			20	80					
	V _R = 105 V			-----	-----					
	V _R = 150 V			-----	10					
SBT30150VCT/VFCT	Instantaneous Forward Voltage	I _F = 6 A	T _j = 25	0.63	-----	Volts				
		I _F = 15 A		0.73	0.78					
		I _F = 6 A	T _j = 125	0.49	-----					
		I _F = 15 A		0.70	0.75					
	Reverse Current	V _R = 105 V	T _j = 25	8	-----	uA				
		V _R = 150 V		20	80					
		V _R = 105 V		-----	-----					
		V _R = 150 V		-----	10					

* Pulse width < 300 uS, Duty cycle < 2%

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RATING AND CHARACTERISTIC CURVES

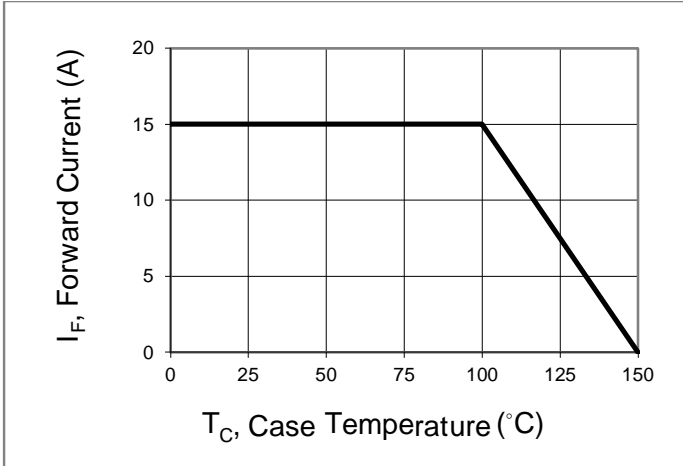


Fig.1 Forward Current Derating Curve

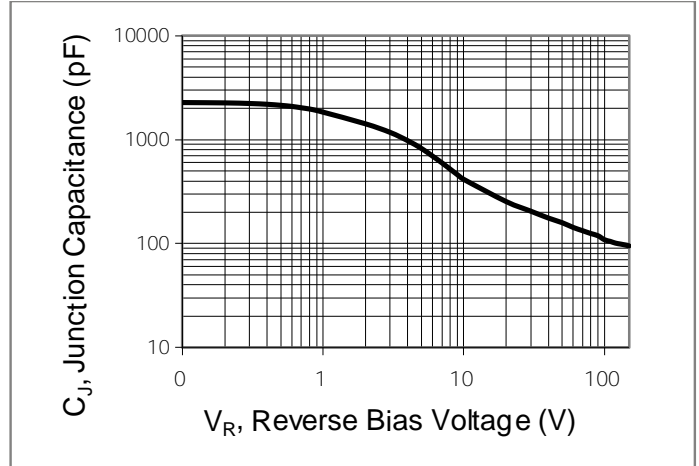


Fig.2 Typical Junction Capacitance

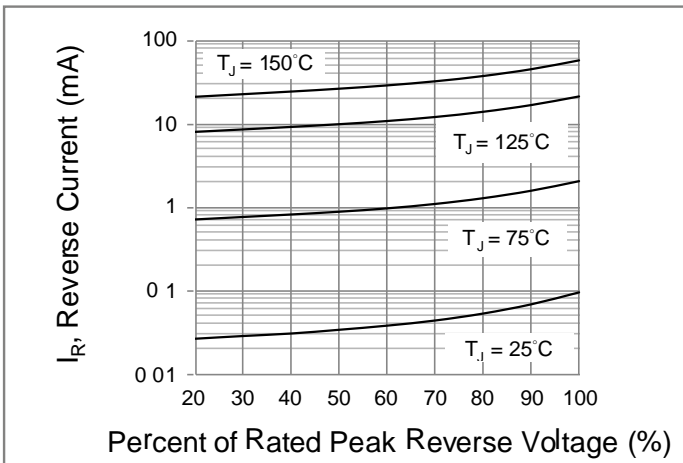


Fig.3 Typical Reverse Characteristics

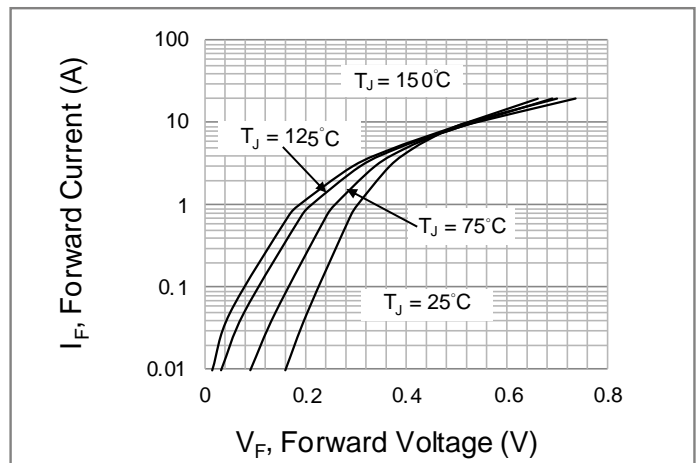


Fig.4 Typical Forward Characteristics

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Package information

Package outline Dimensions millimeters

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