

■ Features

- Electrostatic discharge (ESD) test under IEC6100-4-2 standard >16KV(SBF3040PT~SBF3065PT).
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- Guardring for overvoltage protection.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.
- Suffix "G" indicates Halogen-free part, ex. SBF3040PTG.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

■ Mechanical data

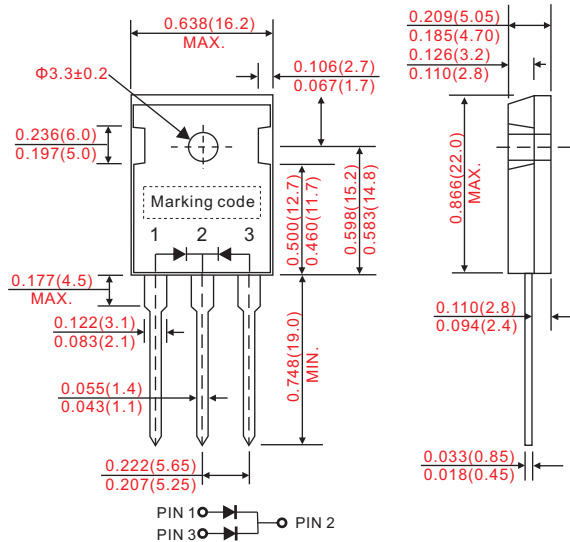
- Epoxy : UL94-V0 rated flame retardant.
- Case : JEDEC TO-247 molded plastic body over passivated chip.
- Lead : Axial leads, solderable per MIL-STD-202, Method 208 guaranteed.
- Polarity: Color band denotes cathode end.
- Mounting Position : Any.
- Weight : Approximated 5.60 gram.

■ Maximum ratings and electrical characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

■ Outline

TO-247



Dimensions in inches and (millimeters)

Parameter	Conditions	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	I_O			30	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	I_{FSM}			200	A
Reverse current	$V_R = V_{RRM}$ $T_A = 25^\circ\text{C}$	I_R			0.5	mA
	$V_R = V_{RRM}$ $T_A = 125^\circ\text{C}$				20	
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		250		pF
Thermal resistance	Junction to ambient	$R_{\theta JA}$		55		$^\circ\text{C/W}$
Storage temperature		T_{STG}	-55		+175	$^\circ\text{C}$

Symbol	Marking code	Max. repetitive peak reverse voltage V_{RRM} (V)	Max. RMS voltage V_{RMS} (V)	Max. DC blocking voltage V_R (V)	Max. forward voltage @15A, $T_A = 25^{\circ}\text{C}$ V_F (V)	Operating temperature T_J ($^{\circ}\text{C}$)
SBF3040PT	SBF3040PT	40	28	40	0.55	-50 ~ +150
SBF3045PT	SBF3045PT	45	31.5	45		
SBF3060PT	SBF3060PT	60	42	60	0.75	
SBF3065PT	SBF3065PT	65	45.5	65		

■ Rating and characteristic curves

Fig.1 - Forward Current Derating Curve

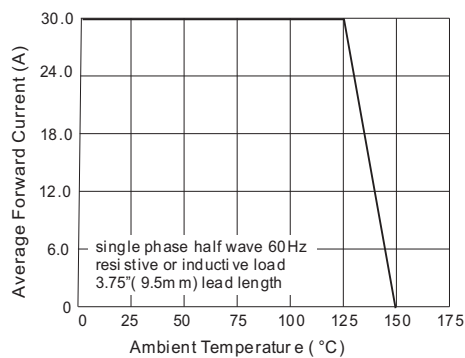


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

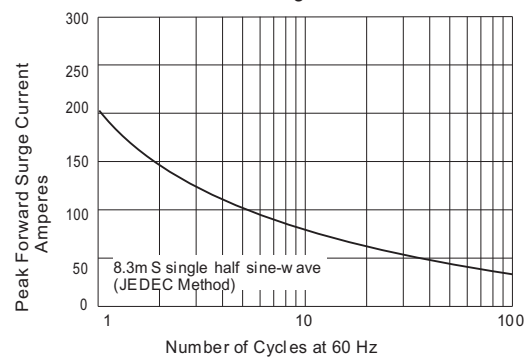


Fig. 3 - Typical Instantaneous Forward Characteristics

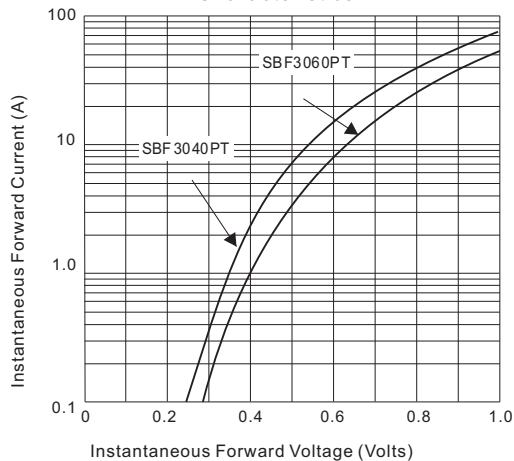
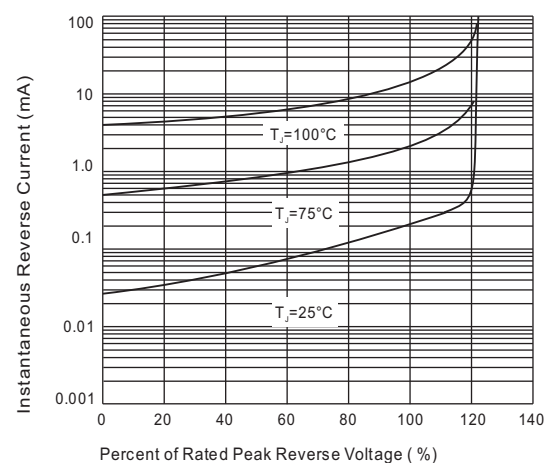


Fig. 4 - Typical Reverse Characteristics



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