

### Features

- 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 "H" indicates Halogen-free part, ex.SB1040FCTH.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

### Mechanical data

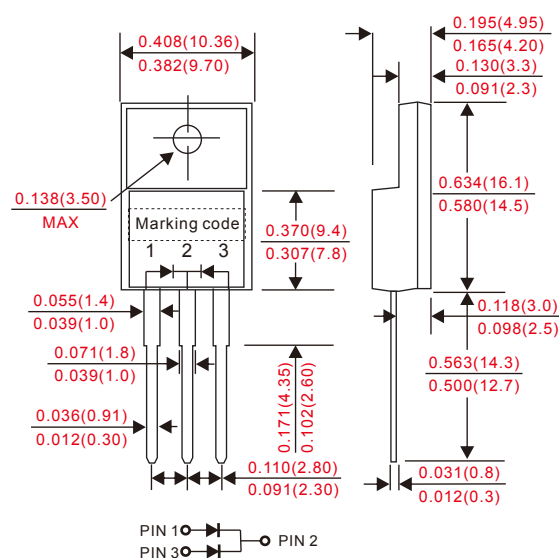
- Epoxy : UL94-V0 rated flame retardant.
- Case : JEDEC ITO-220AB molded plastic body.
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026.
- Polarity: As marked.
- Mounting Position : Any.
- Weight : Approximated 2.25 gram.

### 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

ITO-220AB



Parameter	Conditions	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	$I_o$			10	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	$I_{FSM}$			125	A
Reverse current	$V_R = V_{RRM}$ $T_A = 25^\circ\text{C}$	$I_R$			0.5	mA
	$V_R = V_{RRM}$ $T_A = 100^\circ\text{C}$				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		°C/W
Storage temperature		$T_{STG}$	-55		+175	°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 @5A, $T_A = 25^\circ\text{C}$ $V_F$ (V)	Operating temperature $T_J$ (°C)
SB1040FCT	SB1040FCT	40	28	40	0.55	-55 ~ +150
SB1045FCT	SB1045FCT	45	31.5	45		
SB1060FCT	SB1060FCT	60	42	60	0.70	
SB1065FCT	SB1065FCT	65	45.5	65		

Rating and characteristic curves

Fig. 1 - Forward Current Derating Curve

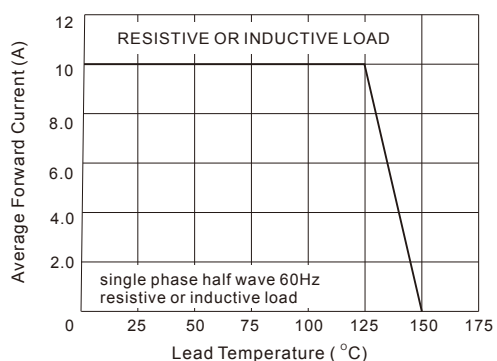


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

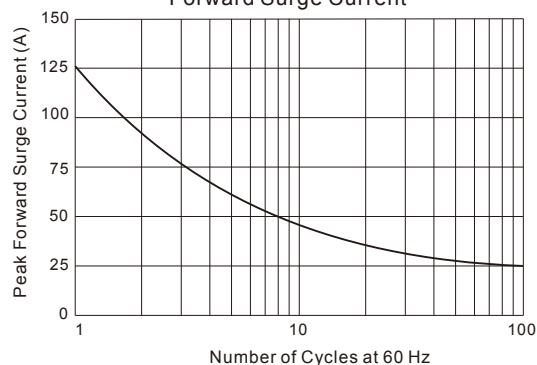


Fig. 3 - Instantaneous Forward Characteristics

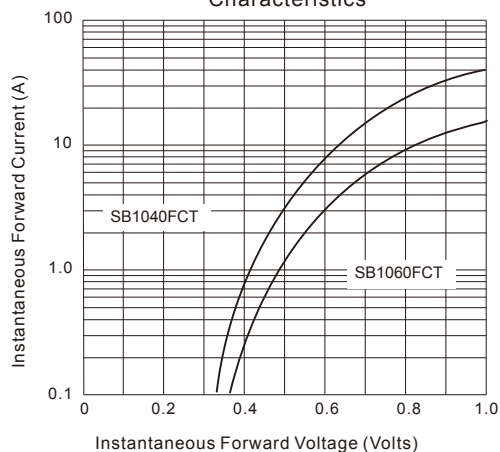
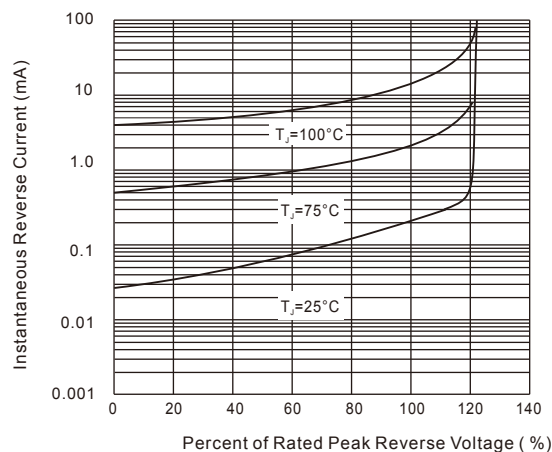


Fig. 4 - Reverse Characteristics



PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG	CARTON NW/KG
TO-220AB	50/tube;1000/BOX	5000	58X23.5X18	15.00	13.00