

TO-220-3L/TO-220F-B Plastic-Encapsulate Diode

SBD30120TCTB、SBDF30120TCTB SCHOTTKY BARRIER RECTIFIER

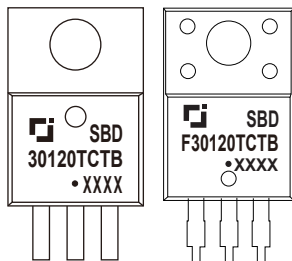
MAIN CHARACTERISTICS

I_o	30 (2×15) A
V_{RRM}	120 V
T_j	150 °C
$V_{F(typ)}$	0.68V (@T_j=125°C)

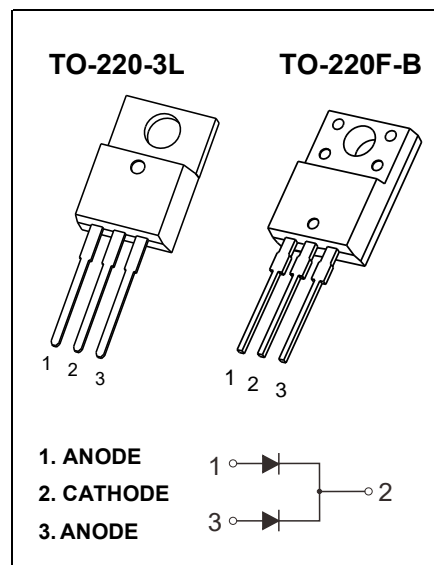
FEATURES

- Low Power Loss, High Efficiency
- Guard Ring Die Construction for Transient Protection
- High Current Capability and Low Forward Voltage Drop

MARKING



SBD(F)30120TCTB = Device code
 Solid dot = Green molding compound device
 if none, the normal device
 XXXX = Code



MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	SBD		Unit
		30120TCTB	F30120TCTB	
V_{RRM}	Peak repetitive reverse voltage	120		V
V_{RWM}	Working peak reverse voltage			
V_R	DC blocking voltage			
$V_{R(RMS)}$	RMS reverse voltage	84		V
I_o	Average rectified output current	30		A
I_{FSM}	Non-Repetitive peak forward surge current (8.3ms half sine wave)	200		A
$R_{\theta Jc}$	Thermal resistance from junction to case , T _c =25°C	2.0	3.0	°C/W
$R_{\theta JA}$	Thermal resistance from junction to ambient	62.5		°C/W
T_j	Junction temperature	150		°C
T_{stg}	Storage temperature	-55~+150		°C

ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse voltage	$V_{(BR)}$	$I_R=0.1mA$	120			V
Reverse current	I_R	$V_R=120V$	$T_j = 25^\circ C$	10	100	uA
			$T_j = 125^\circ C$	10		mA
Forward voltage	V_F	$I_F=10A$	$T_j = 25^\circ C$	0.69		V
			$T_j = 125^\circ C$	0.61		V
		$I_F=15A$	$T_j = 25^\circ C$	0.83	0.89	V
			$T_j = 125^\circ C$	0.68		V

*Pulse test: pulse width ≤300μs, duty cycles ≤ 2.0%.

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

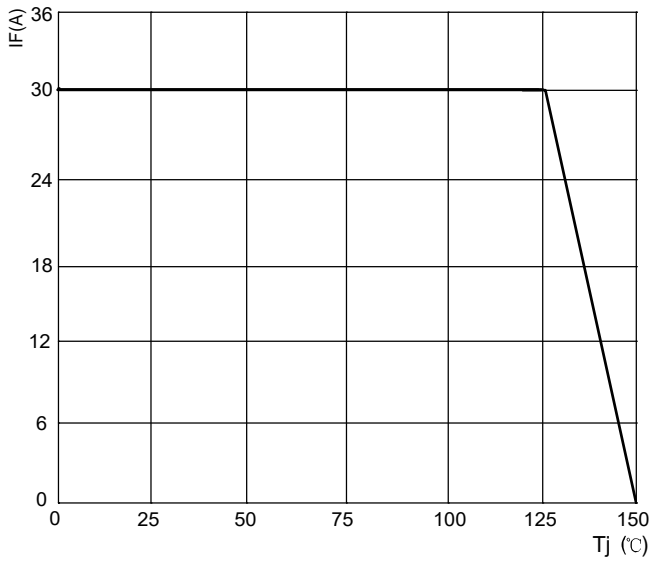


FIG.2: TYPICAL FORWARD CHARACTERISTICS

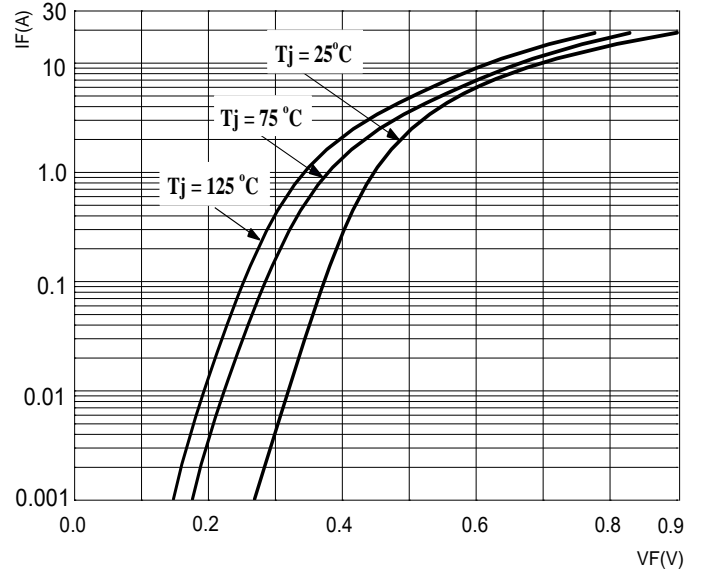


FIG.3: TOTAL CAPACITANCE DERATING CURVE

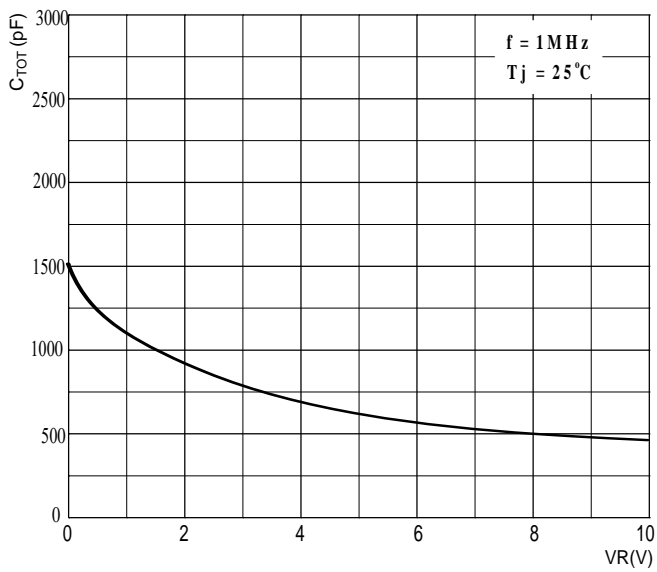
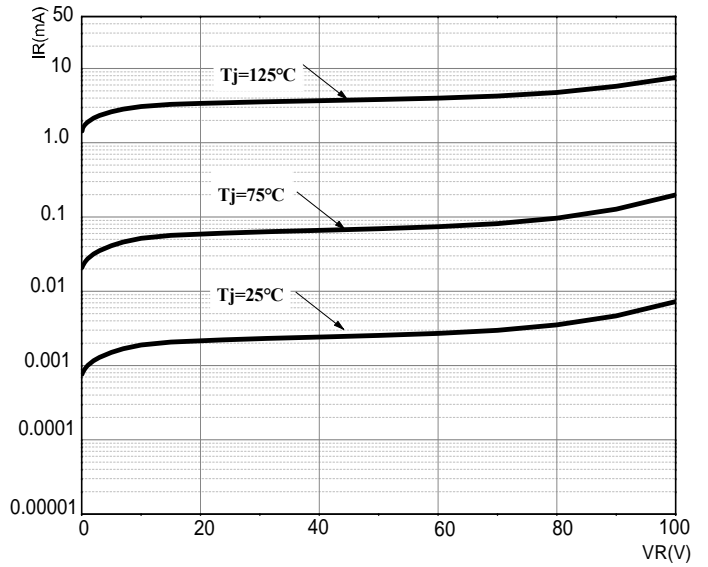
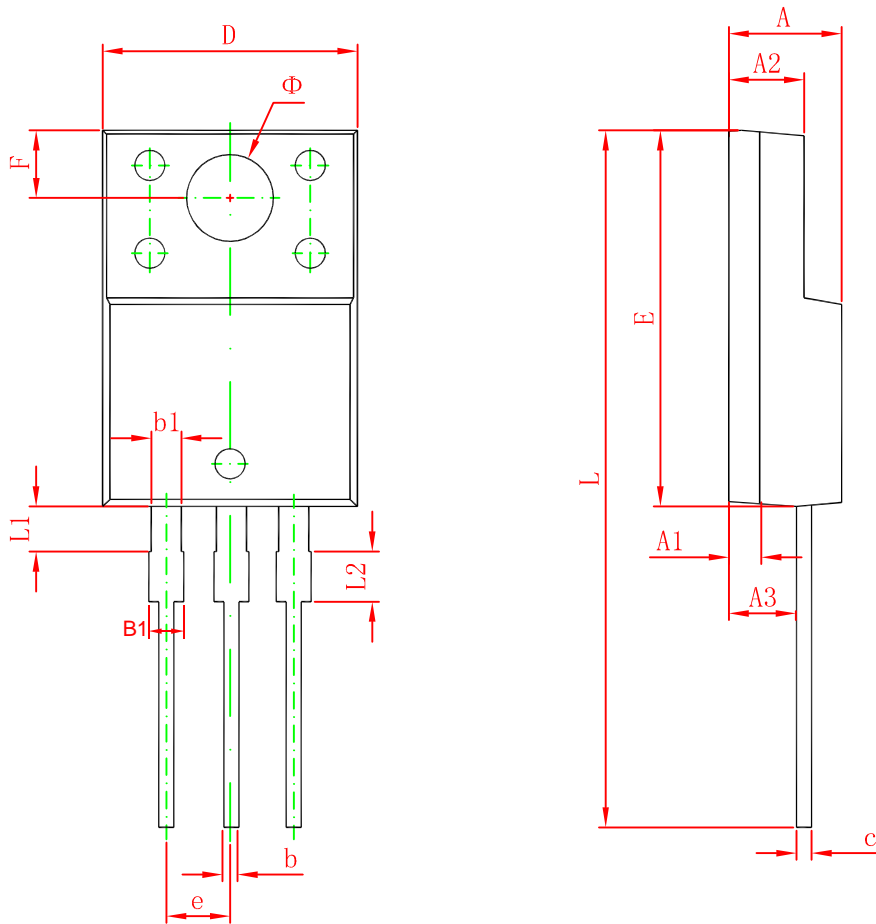


FIG.4: TYPICAL REVERSE CHARACTERISTICS



TO-220F-B Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.300	4.700	0.169	0.185
A1	1.200 REF.		0.047 REF.	
A2	2.800	3.200	0.110	0.126
A3	2.500	2.900	0.098	0.114
b	0.710	0.910	0.028	0.036
b1	1.100	1.350	0.043	0.053
B1	1.150	1.400	0.045	0.055
c	0.500	0.750	0.020	0.030
D	9.960	10.360	0.392	0.408
E	14.800	15.200	0.583	0.598
e	2.540 TYP.		0.100 TYP.	
F	2.700 REF.		0.106 REF.	
Φ	3.300	3.700	0.130	0.146
L	28.000	28.400	1.102	1.118
L1	2.100	2.400	0.082	0.094
L2	1.300	1.700	0.051	0.066