SZCJ

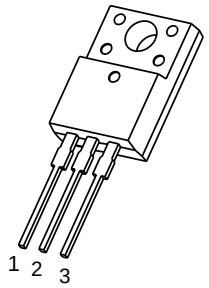
Shenzhen Changji Semiconductor Co., LTD.

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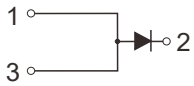
MAIN CHARACTERISTICS

I_O	30A
V_{RRM}	300 V
T_j	175 ℃
$V_{F(typ)}$	0.86V （@Tj=150℃）

TO-220FL-3L



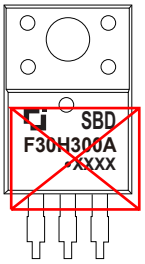
1. ANODE
2. CATHODE
3. ANODE



FEATURES

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

MARKING



SBD(F)30H300A = Device code
Solid dot = Green molding compound device
if none, the normal device
XXXX = Code

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{RRM}	Peak repetitive reverse voltage	300	V
V_{RWM}	Working peak reverse voltage		
V_R	DC blocking voltage		
$V_{R(RMS)}$	RMS reverse voltage	210	V
I_O	Average rectified output current	30	A
I_{FSM}	Non-Repetitive peak forward surge current (8.3ms half sine wave)	360	A
$R_{\Theta Jc}$	Thermal resistance from junction to case	2.6	℃/W
$R_{\Theta JA}$	Thermal resistance from junction to ambient	100	℃/W
T_j	Junction temperature	175	℃
T_{stg}	Storage temperature	-55~+175	℃

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions		Min	Typ	Max	Unit
Reverse voltage	$V_{(BR)}$	I_R=0.1mA		300			V
Reverse current	I_R	V_R=300V	Tj =25℃		0.5	2.0	uA
			Tj =150℃		2.0		mA
Forward voltage	V_F	I_F=15A	Tj =25℃		0.85		V
			Tj =150℃		0.72		V
		I_F=30A	Tj =25℃		0.93	0.97	V
			Tj =150℃		0.86		V

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

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

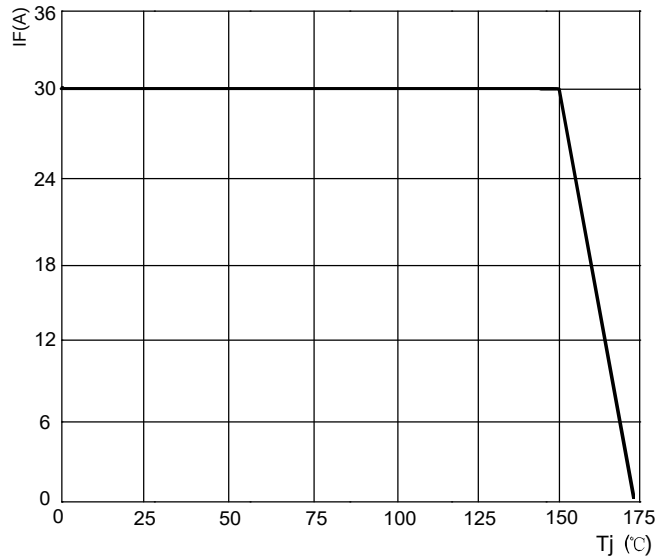


FIG.2: TYPICAL FORWARD CHARACTERISTICS

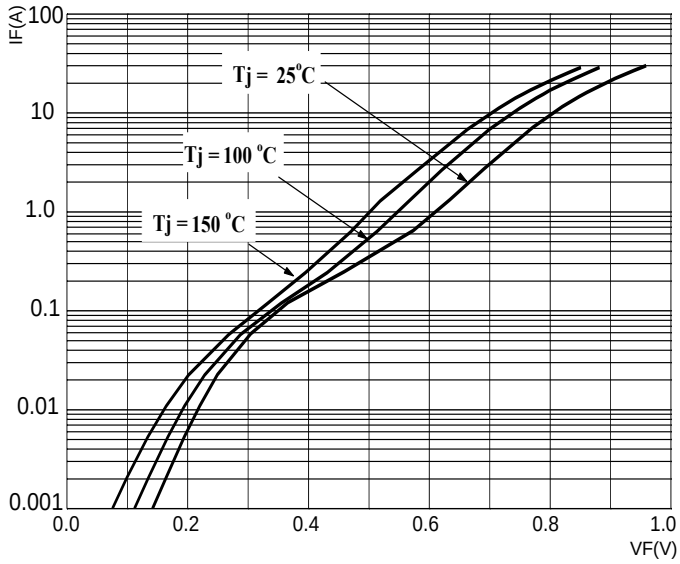


FIG.3: TOTAL CAPACITANCE DERATING CURVE

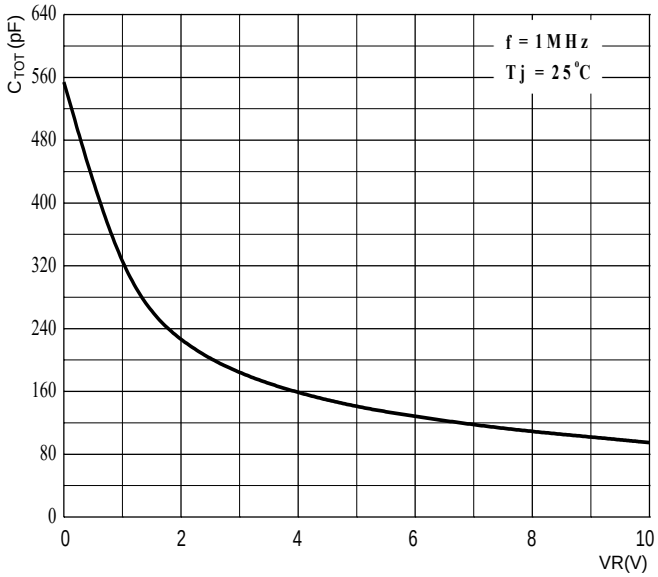
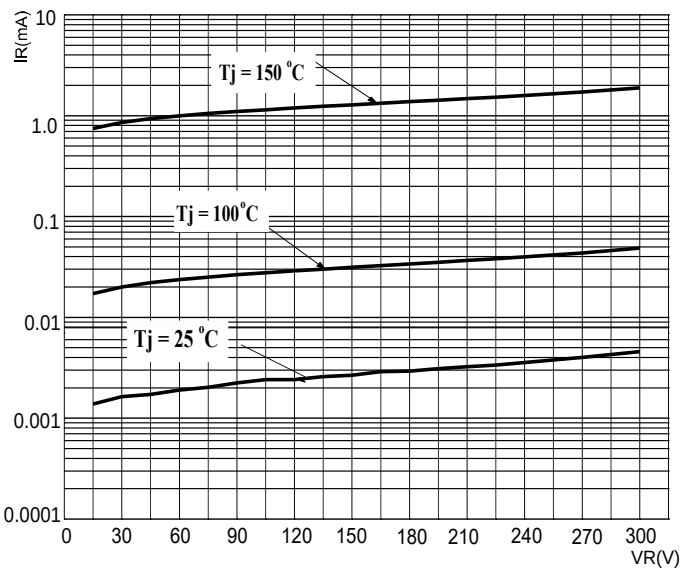
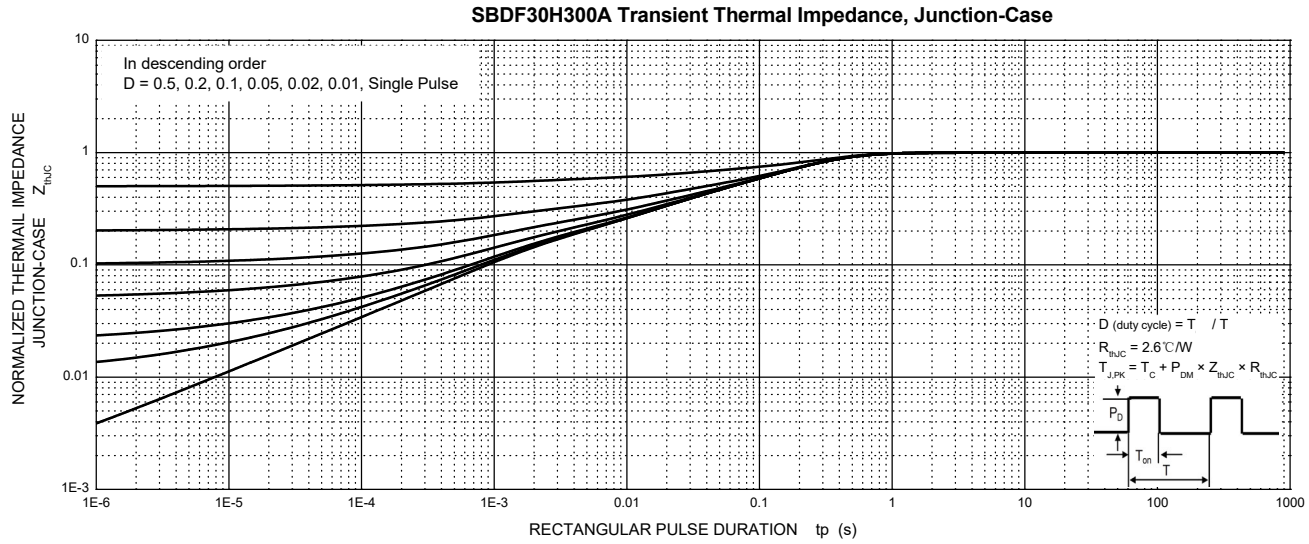


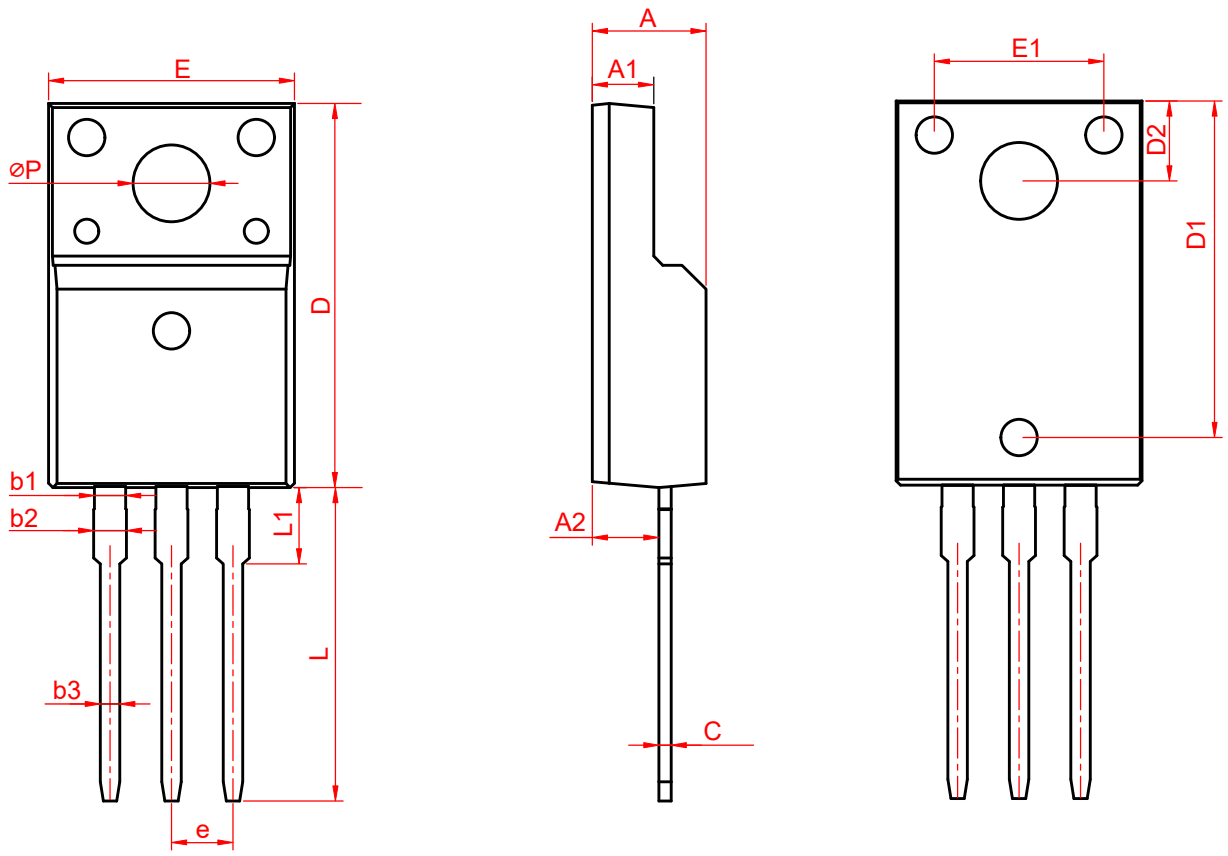
FIG.4: TYPICAL REVERSE CHARACTERISTICS



Typical Characteristics



TO-220FL-3L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.50	4.90	0.177	0.193
A1	2.34	2.74	0.092	0.108
A2	2.66	2.86	0.105	0.113
b1	1.24	1.34	0.049	0.053
b2	1.28	1.43	0.050	0.056
b3	0.75	0.85	0.030	0.033
C	0.45	0.60	0.018	0.024
D	15.67	16.07	0.617	0.633
D1	13.80	14.00	0.543	0.550
D2	3.20	3.40	0.126	0.134
e	2.54TYP.		0.100TYP.	
E	9.96	10.36	0.392	0.408
E1	6.90	7.10	0.270	0.280
L	12.76	13.16	0.502	0.518
L1	-	3.33	-	0.131
ΦP	3.00	3.38	0.118	0.133