

# **SBD30120TCTB、SBDF30120TCTB**

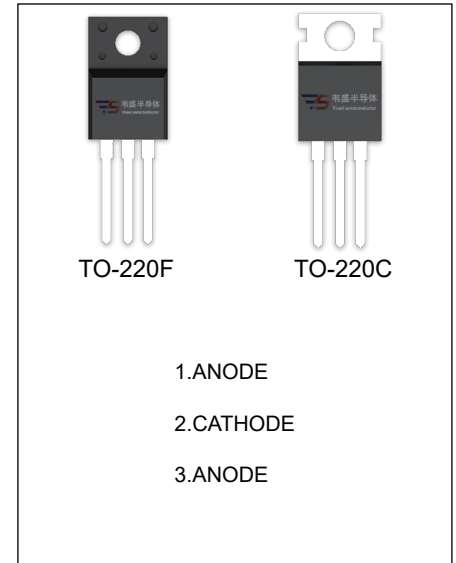
## **SCHOTTKY BARRIER RECTIFIER**

### **MAIN CHARACTERISTICS**

$I_O$	<b>30 (2×15) A</b>
$V_{RRM}$	<b>120 V</b>
$T_j$	<b>150 °C</b>
$V_{F(typ)}$	<b>0.68V (@<math>T_j=125^{\circ}C</math>)</b>

### **FEATURES**

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



### **MAXIMUM RATINGS ( $T_a=25^{\circ}C$ 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 , $T_c=25^{\circ}C$	2.0	3.0	$^{\circ}C/W$
$R_{\theta JA}$	Thermal resistance from junction to ambient	62.5		$^{\circ}C/W$
$T_j$	Junction temperature	150		$^{\circ}C$
$T_{stg}$	Storage temperature	-55~+150		$^{\circ}C$

### **ELECTRICAL CHARACTERISTICS ( $T_a=25^{\circ}C$ 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	$\mu A$
			$T_j=125^{\circ}C$	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  $\leq 300\mu s$ , duty cycles  $\leq 2.0\%$ .

FIG.1: FORWARD CURRENT DERATING CURVE

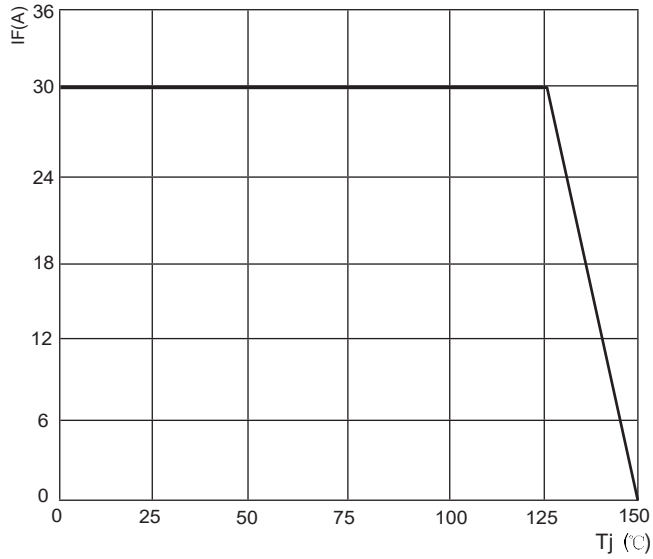


FIG.2: TYPICAL FORWARD CHARACTERISTICS

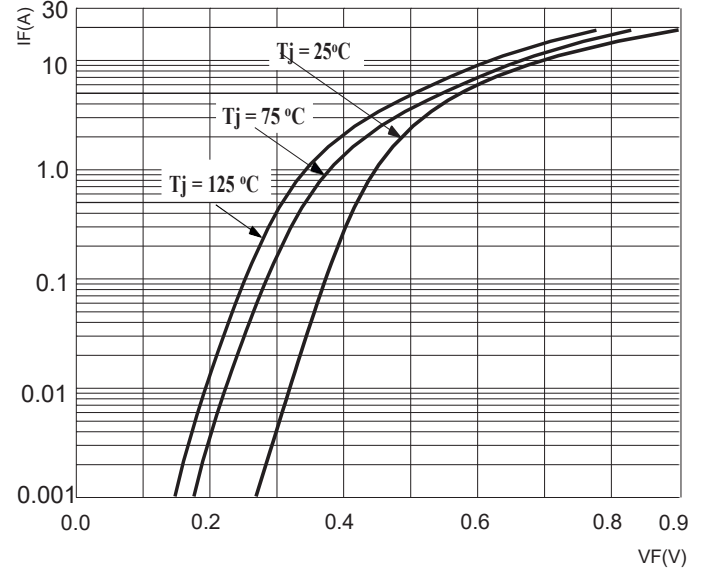


FIG.3: TOTAL CAPACITANCE DERATING CURVE

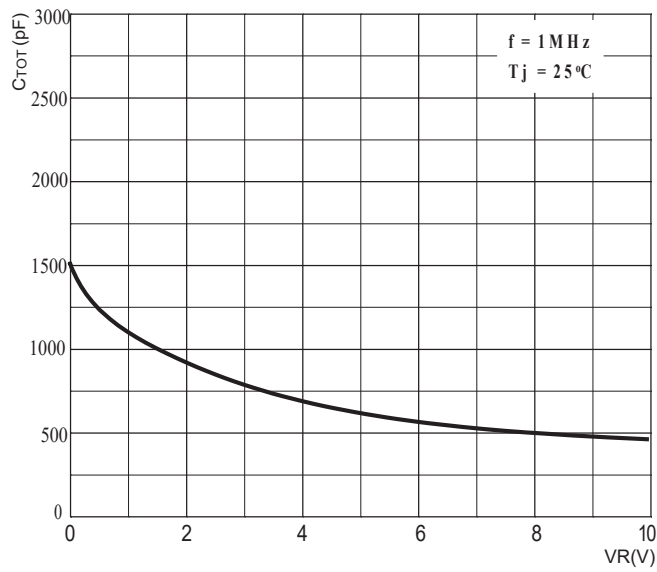


FIG.4: TYPICAL REVERSE CHARACTERISTICS

