

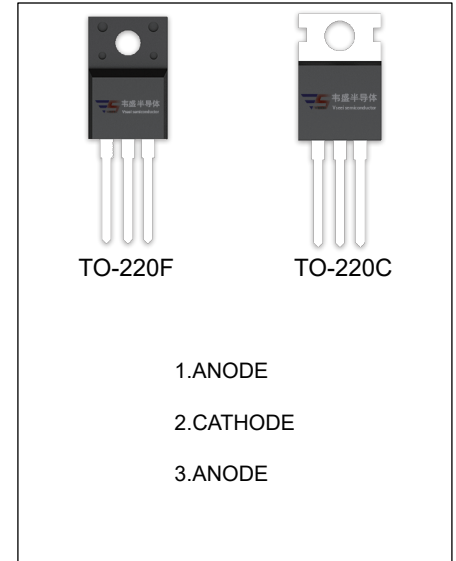
# **SBD1045LCT、SBDF1045LCT** SCHOTTKY BARRIER RECTIFIER

## **MAIN CHARACTERISTICS**

$I_O$	<b>10 (2×5) A</b>
$V_{RRM}$	<b>45 V</b>
$T_j$	<b>150 °C</b>
$V_{F(typ)}$	<b>0.40V (@T<sub>j</sub>=125°C)</b>

## **FEATURES**

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



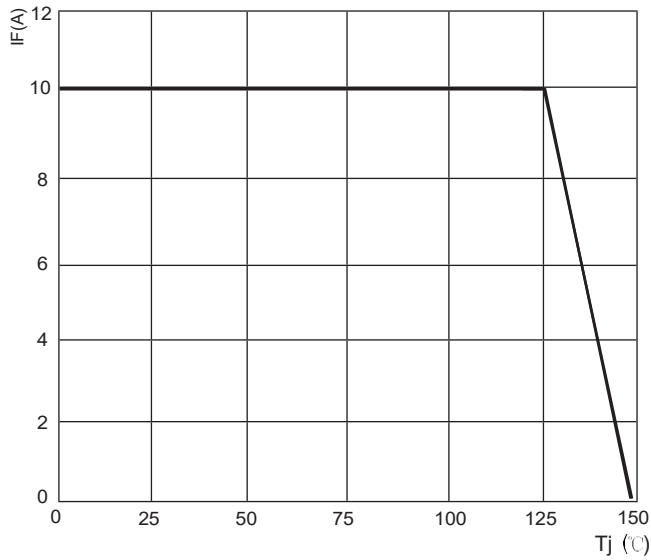
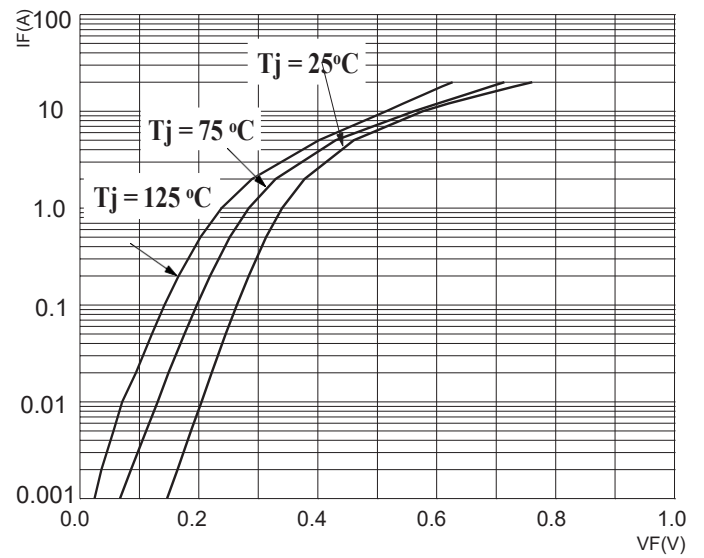
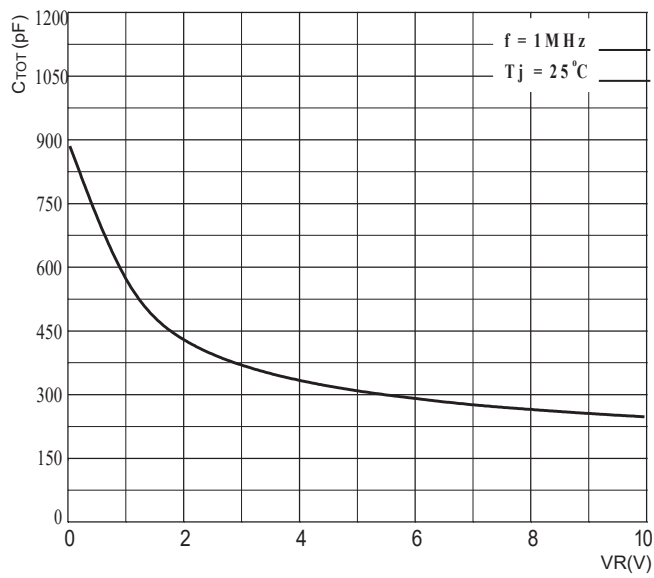
## **MAXIMUM RATINGS ( T<sub>a</sub>=25°C unless otherwise noted )**

Symbol	Parameter	SBD		Unit
		1045LCT	F1045LCT	
$V_{RRM}$	Peak repetitive reverse voltage	45		V
$V_{RWM}$	Working peak reverse voltage			
$V_R$	DC blocking voltage			
$V_{R(RMS)}$	RMS reverse voltage	31.5		V
$I_O$	Average rectified output current	10		A
$I_{FSM}$	Non-Repetitive peak forward surge current (8.3ms half sine wave)	120		A
$R_{\theta Jc}$	Thermal resistance from junction to case ,T <sub>c</sub> =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<sub>a</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse voltage	$V_{(BR)}$	$I_R=1mA$	45			V
Reverse current	$I_R$	$V_R=45V$	$T_j=25^\circ C$	50	100	uA
			$T_j=125^\circ C$	20		mA
Forward voltage	$V_F$	$I_F=3A$	$T_j=25^\circ C$	0.42		V
			$T_j=125^\circ C$	0.34		V
		$I_F=5A$	$T_j=25^\circ C$	0.46	0.55	V
			$T_j=125^\circ C$	0.40		V

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

**FIG.1: FORWARD CURRENT DERATING CURVE**

**FIG.2: TYPICAL FORWARD CHARACTERISTICS**

**FIG.3: TOTAL CAPACITANCE DERATING CURVE**

**FIG.4: TYPICAL REVERSE CHARACTERISTICS**
