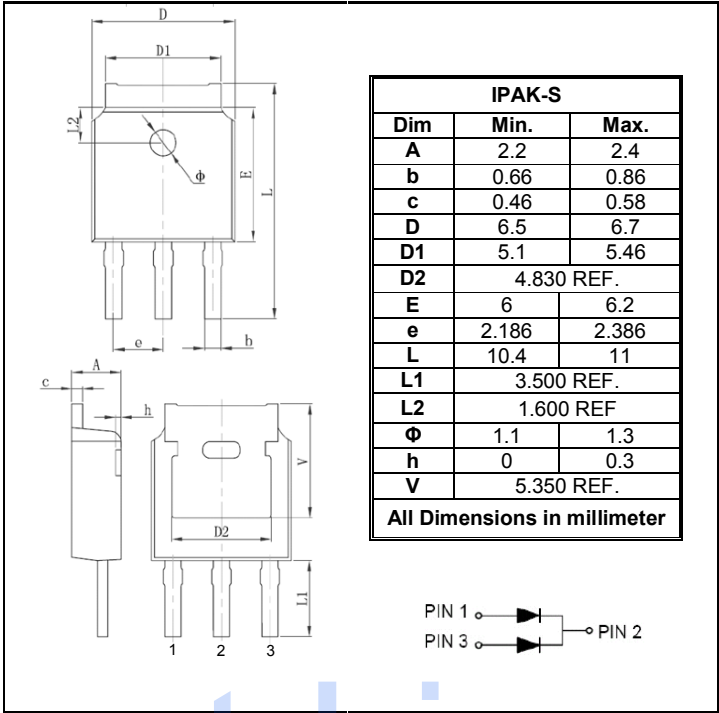


**SCHOTTKY BARRIER RECTIFIERS**

**REVERSE VOLTAGE – 40 to 60 Volts  
FORWARD CURRENT – 10 Amperes**

- FEATURES**
- Metal of silicon rectifier, majority carrier conduction
  - Guard ring for transient protection
  - Low power loss, high surge & efficiency
  - For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- MECHANICAL DATA**
- Case: TO-251-S molded plastic
  - Plastic package has UL flammability classification 94V-0
  - Moisture sensitivity: level 1 per J-STD-020D
  - Lead Free Finish, RoHS Compliant
  - Polarity: As marked on the body



**Maximum Ratings & Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified**

Characteristic	Symbol	SBL1040CK	SBL1045CK	SBL1060CK	Units
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	40	45	60	V
Maximum RMS Voltage	V <sub>RMS</sub>	28	32	42	
Maximum DC Blocking Voltage	V <sub>DC</sub>	40	45	60	
Maximum Average Forward Rectified Forward Current SBL1040CK@ T <sub>C</sub> = 85°C SBL1045CK@ T <sub>C</sub> = 85°C SBL1060CK@ T <sub>C</sub> = 110°C	I <sub>F(AV)</sub>	10			A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	100			A
Reverse Breakdown Voltage I <sub>R</sub> = 100uA	V <sub>BR</sub>	40	45	60	V
Maximum Forward Voltage I <sub>F</sub> = 5A	V <sub>F</sub>	0.55		0.75	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	I <sub>R</sub>	0.2 20			mA
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	7		5	°C/W
Thermal Resistance, Junction to Lead	R <sub>θJL</sub>	6		4	°C/W
Thermal Resistance, Junction to Ambient	R <sub>θJA</sub>	80			°C/W
Operating Temperature Range	T <sub>J</sub>	125		150	°C
Storage Temperature Range	T <sub>STG</sub>	-55~+150			°C

Note :

- (1) 300us Pulse Width, 2% Duty Cycle.
- (2) Measured at 1.0MHz and applied reverse voltage of 4.0 V<sub>DC</sub>.

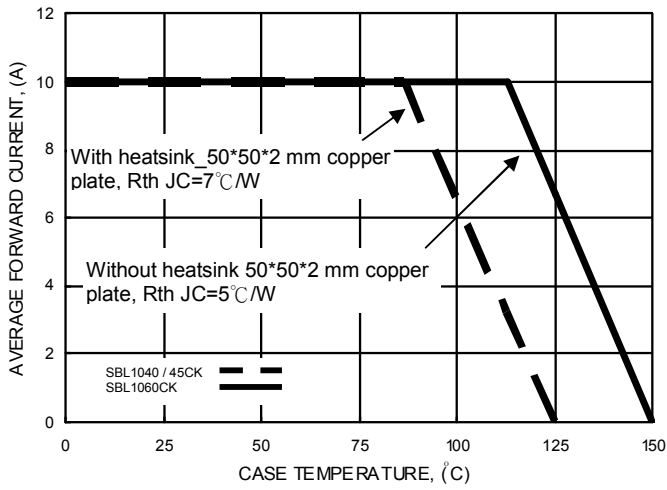
REV. 1, Jul-2011, KTHA23

# RATING AND CHARACTERISTIC CURVES

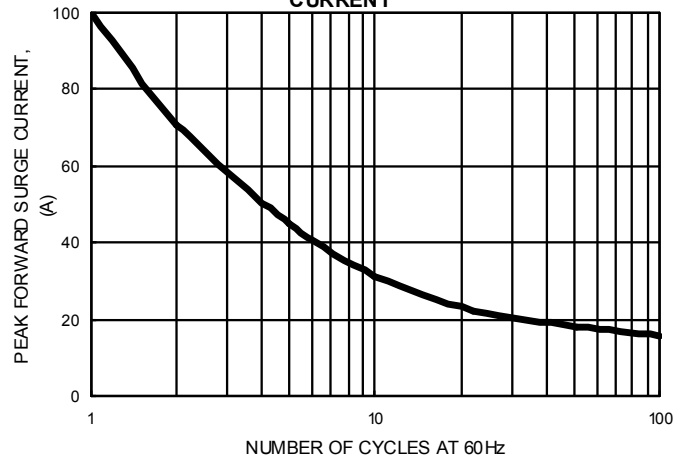
## SBL1040CK thru SBL1060CK



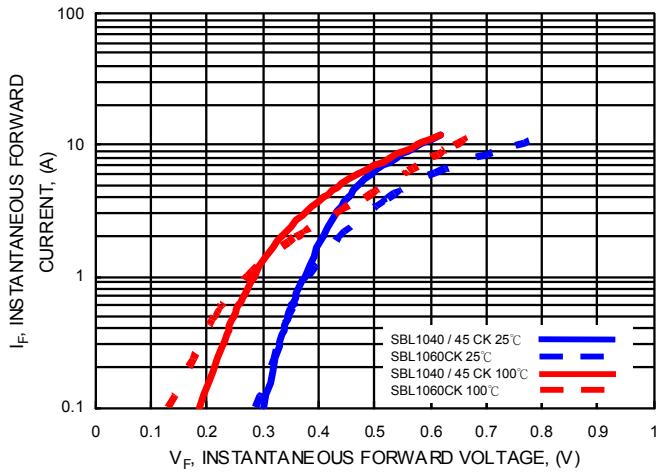
**FIG.1- FORWARD CURRENT DERATING CURVE**



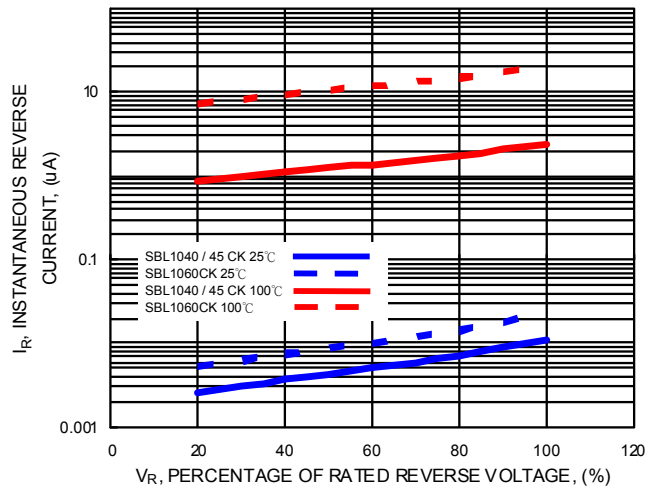
**FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT**



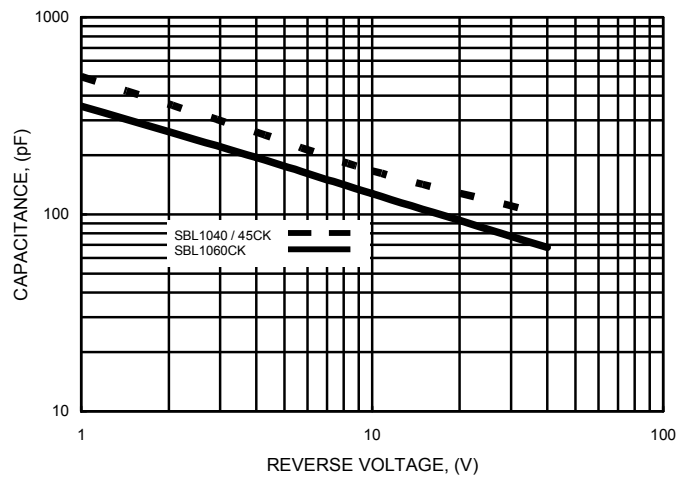
**FIG.3- TYPICAL FORWARD CHARACTERISTICS**



**FIG.4- TYPICAL REVERSE CHARACTERISTICS**



**FIG.5- TYPICAL JUNCTION CAPACITANCE**



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