

SB180-E-41C

SCHOTTKY BARRIER RECTIFIER

VOLTAGE: 80V

CURRENT: 1.0A



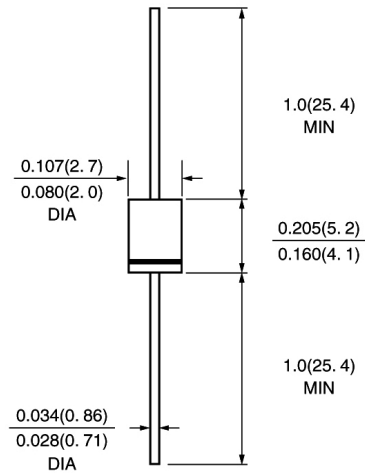
FEATURE

High current capability, Low forward voltage drop
Low power loss, high efficiency
High surge capability
High temperature soldering guaranteed
250°C /10sec/0.375" lead length at 5 lbs tension
Halogen Free

MECHANICAL DATA

Terminal: Plated axial leads solderable per
MIL-STD 202E, method 208C
Case: Molded with UL-94 Class V-0 Halogen Free Epoxy
Polarity: color band denotes cathode
Mounting position: any

DO-41



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(single-phase, half-wave, 60HZ, resistive or inductive load rating at 25°C, unless otherwise stated)

	SYMBOL	SB180-E-41C	units
Maximum Recurrent Peak Reverse Voltage	V _{rrm}	80	V
Maximum RMS Voltage	V _{rms}	56	V
Maximum DC blocking Voltage	V _{dc}	80	V
Maximum Average Forward Rectified Current 3/8" lead length	I _{f(av)}	1.0@ TL=100°C 0.5@ T _c =120°C	A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I _{fsm}	40.0	A
Inrush Current with 10Ω and 20uF foil capacitor placed in series to the DUT 10000 times, 10s between each pulse T _c =120°C	I _{fsm-1}	40min	A
Maximum Forward Voltage at 1.0A DC	V _f	0.84	V
Maximum DC Reverse Current at rated DC blocking voltage T _c =25°C T _c =100°C T _c =120°C	I _r	0.5 1.5 4.0	mA
Maximum Reverse Recovery Time(Note 1) T _c =25°C T _c =120°C	T _{rr}	2 5	nS
Total power dissipatio (Note2)	P _{tot}	840	mW
Typical Thermal Resistance (Note 3) (Note 4)	R _{th(ja)} R _{th(jc)}	50 30	°C/W
Storage and Operating Junction Temperature	T _j , T _{stg}	-65 to +150	°C

Note:

1. Reverse Recovery Condition I_f =0.5A, I_r =1.0A, I_{rr} =0.25A
2. T_c=25°C (according to calculations)
3. Thermal Resistance from Junction to Ambient at 0.5" lead length, vertical P.C. Board Mounted
4. Thermal Resistance from Junction to Case

RATINGS AND CHARACTERISTIC CURVES SB180-E-41C

FIG.1 - FORWARD CURRENT DERATING CURVE

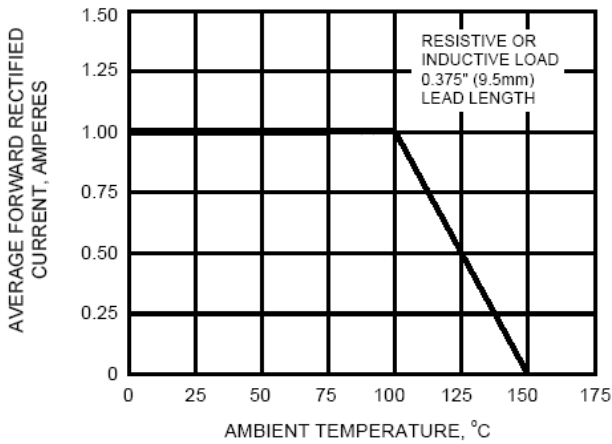


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

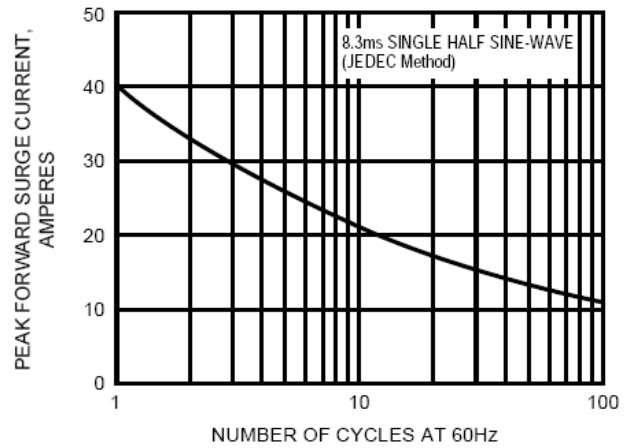


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

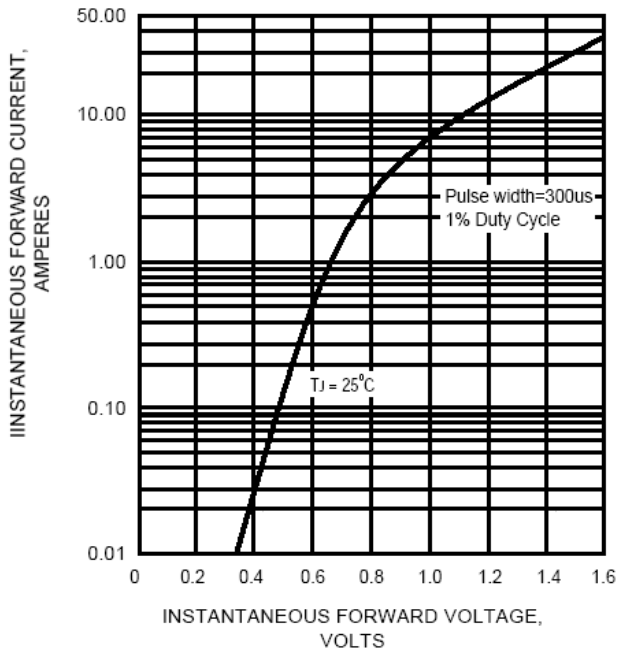


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

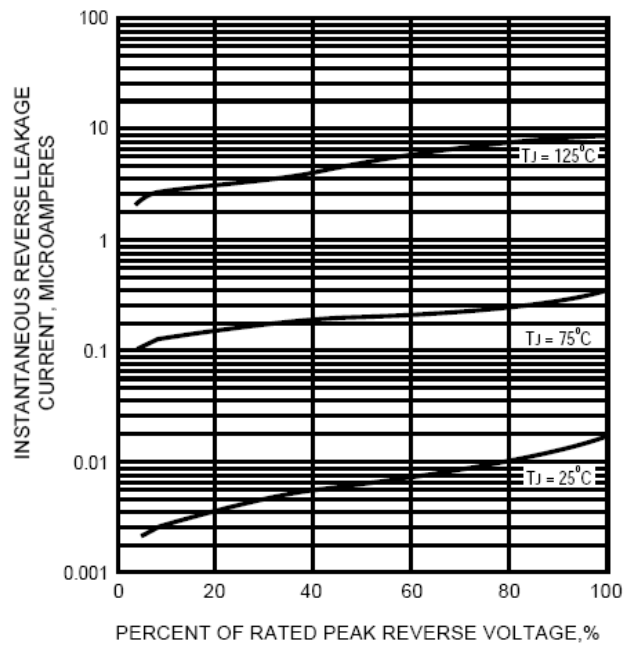


FIG.5 - TYPICAL JUNCTION CAPACITANCE

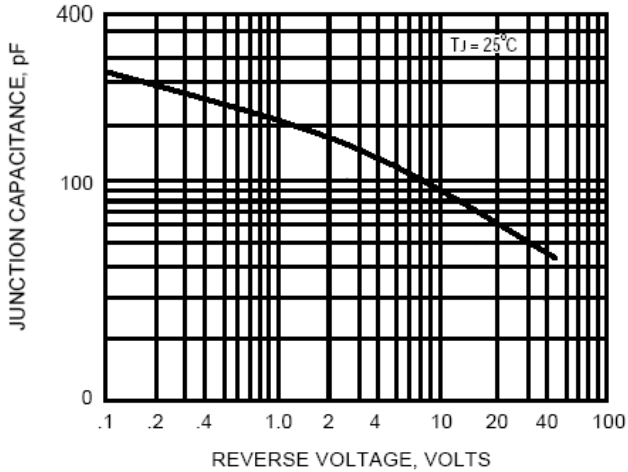
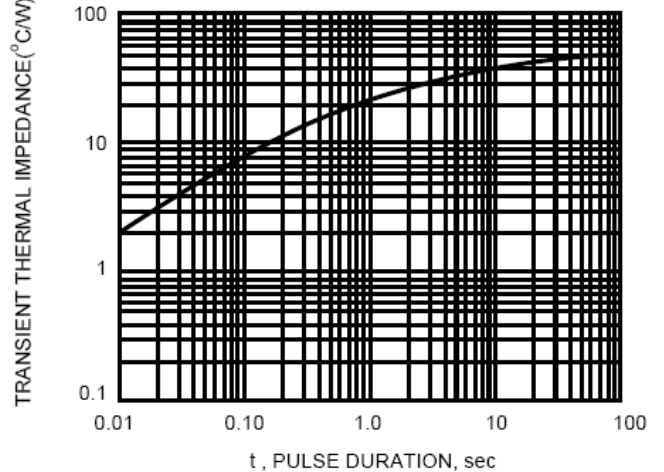


FIG.6 - TYPICAL TRANSIENT THERMAL IMPEDANCE



1. According to 1.4601.442-01 test circuit, ESD Test of SB180-E at 80 Vdc passed with the immunity capability of $\pm 15\text{KV}$

2. Description of test method & conditions

Setup:

Test voltages for DUT: max specified DC blocking voltage.

ESD test level for Contact discharge:

10 Impulses at each test level and output polarity.

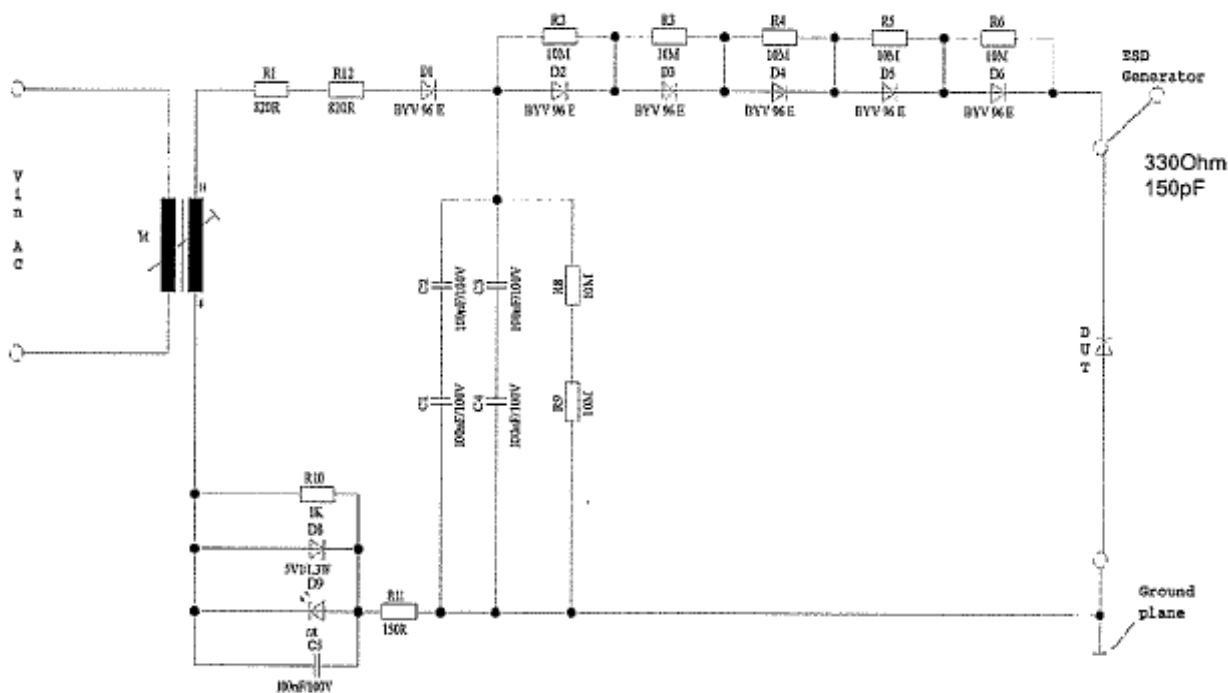
Test level: $\pm 2, \pm 4, \pm 6, \pm 8, \pm 10, \pm 12, \pm 15\text{KV}$

Test criteria: No faults are allowed.

Ambient temperature: 25°C Relative humidity : 55%

Specification: ESD Generator according to IEC 61000-4-2

Test circuit:



(1.4601.442-01)