

SWITCHMODE POWER RECTIFIERS D PAK SURFACE MOUNT POWER PACKAGE

The D PAK Power rectifier employs the Schottky Barrier principle with a Molybdenum barrier metal. These state-of-the-art devices have the following features:

- * Low Forward Voltage
- * Low Switching noise
- * High Surge Capacity
- * Guarantee Reverse Avalanche
- * Guard-Ring for Stress Protection
- * Lower Power Loss & High efficiency
- * 125°C Operating Junction Temperature
- * Lower Stored Charge Majority Carrier Conduction
- * Similar Size to the industry Standard TO-251 Package
- * Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O
- * Marking: S2030T-S2045T
- * Weight: 0.011 ounce, 0.295 gram

SCHOTTKY BARRIER RECTIFIERS

**20 AMPERES
30-45 VOLTS**



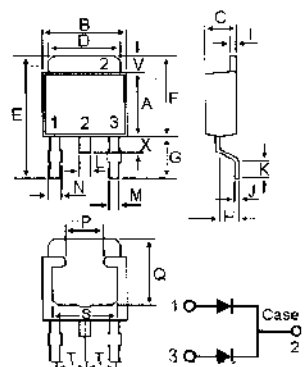
TO-252AA (DPAK)

MAXIMUM RATINGS

Characteristic	Symbol	SBD20				Unit
		30CT	35CT	40CT	45CT	
Peak Repetitive Reverse Voltage	V_{RRM}					V
Working Peak Reverse Voltage	V_{RWM}	30	35	40	45	
DC Blocking Voltage	V_R					
RMS Reverse Voltage	$V_{R(RMS)}$	21	25	28	32	V
Average Rectifier Forward Current Total Device (Rated V_R), $T_c=100^\circ\text{C}$	$I_{F(AV)}$	10 20				A
Peak Repetitive Forward Current (Rate V_R , Square Wave, 20kHz)	I_{FM}	20				A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfwave, single phase, 60Hz)	I_{FSM}	175				A
Operating and Storage Junction Temperature Range	T_J, T_{stg}	- 65 to + 125				°C

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	SBD20				Unit
		30CT	35CT	40CT	45CT	
Maximum Instantaneous Forward Voltage ($I_F=10$ Amp, $T_c=25^\circ\text{C}$)	V_F	0.55				V
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_c=25^\circ\text{C}$) (Rated DC Voltage, $T_c=100^\circ\text{C}$)	I_R	1.0 5.0				mA mA



DIM	MILLIMETERS	
	MIN	MAX
A	5.40	5.60
B	6.30	6.70
C	2.20	2.40
D	5.20	5.50
E	9.00	10.00
F	6.60	7.00
G	2.40	3.00
H	0.90	1.50
I	0.45	0.55
J	0.45	0.60
K	0.90	1.50
L	0.70	0.90
M	0.50	0.70
N	0.60	0.90
P	2.70	3.10
Q	5.00	5.40
S	4.80	5.20
T	—	2.30
V	1.20	1.40
X	0.80	1.20

SBD2030CT thru SBD2045CT

FIG-1 FORWARD CURRENT DERATING CURVE

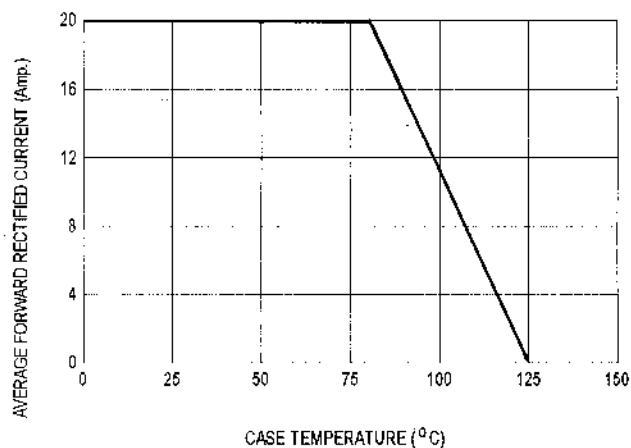


FIG-2 TYPICAL FORWARD CHARACTERISTICS

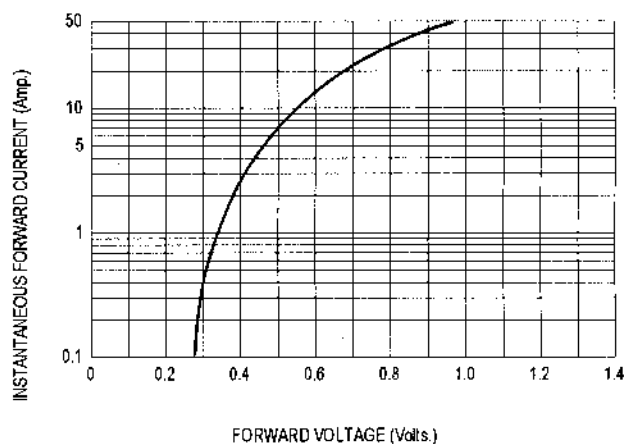


FIG-3 TYPICAL REVERSE CHARACTERISTICS

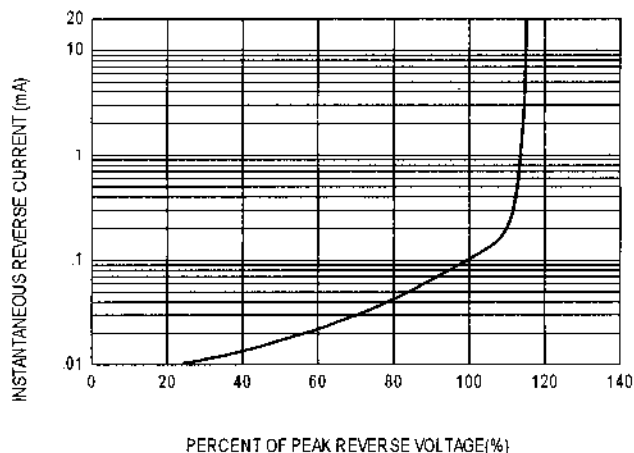


FIG-4 TYPICAL JUNCTION CAPACITANCE

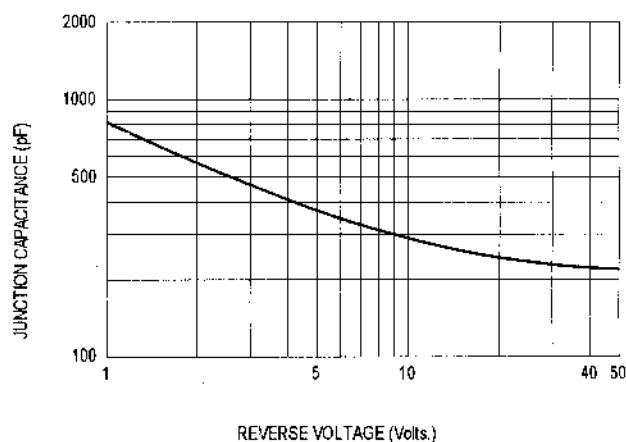
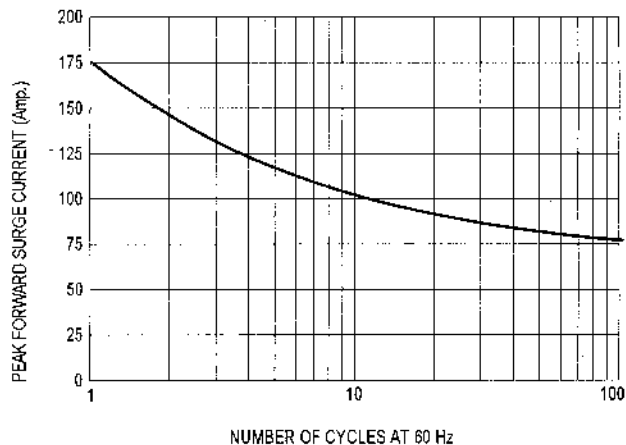


FIG-5 PEAK FORWARD SURGE CURRENT



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