

### SWITCHMODE POWER RECTIFIERS D PAK SURFACE MOUNT POWER PACKAGE

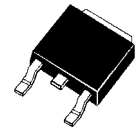
The D PAK Power rectifier employs the Schottky Barrier principle with a Molybdenum barrier metal. These state-of-the-art devices have the following features:

- \* Low Forward Voltage
- \* Low Switching noise
- \* High Surge Capacity
- \* Guarantee Reverse Avalanche
- \* Guard-Ring for Stress Protection
- \* Lower Power Loss & High efficiency
- \* 150 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: S1030T-S1045T
- \* Weight: 0.011 ounce, 0.295 gram
- \* ESD: 8KV(Min.) Human-Body Model
- \* *In compliance with EU RoHs 2002/95/EC directives*

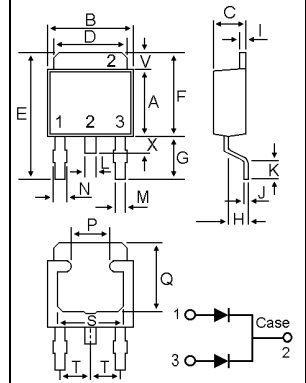


### SCHOTTKY BARRIER RECTIFIERS

**10 AMPERES  
30-45 VOLTS**



**TO-252AA (D PAK)**



### MAXIMUM RATINGS

Characteristic	Symbol	SBD				Unit
		1030CT	1035CT	1040CT	1045CT	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	30	35	40	45	V
RMS Reverse Voltage	$V_{R(RMS)}$	21	25	28	32	V
Average Rectifier Forward Current Per diodes Total Device (Rated $V_R$ ), $T_C=125$	$I_{F(AV)}$	5.0 10				A
Peak Repetitive Forward Current (Rate $V_R$ , Square Wave, 20kHz)	$I_{FM}$	10				A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions half-wave, single phase, 60Hz)	$I_{FSM}$	125				A
Operating and Storage Junction Temperature Range	$T_J, T_{stg}$	-65 to +150				

### ELECTRIAL CHARACTERISTICS

Characteristic	Symbol	SBD				Unit
		1030CT	1035CT	1040CT	1045CT	
Maximum Instantaneous Forward Voltage ( $I_F = 5$ Amp, $T_C = 25$ )	$V_F$	0.55				V
Typical Thermal Resistance junction to case	$R_{\theta j-c}$	4.2				/w
Maximum Instantaneous Reverse Current ( Rated DC Voltage, $T_C = 25$ ) ( Rated DC Voltage, $T_C = 125$ )	$I_R$	0.5 5.0				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

# SBD1030CT Thru SBD1045CT

FIG-1 FORWARD CURRENT DERATING CURVE

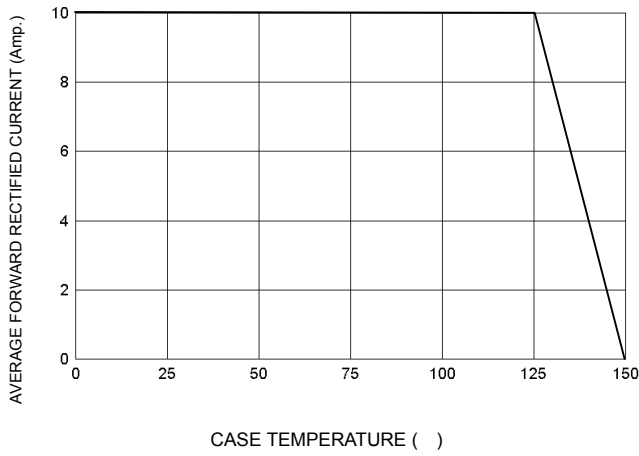


FIG-2 TYPICAL FORWARD CHARACTERISTICS

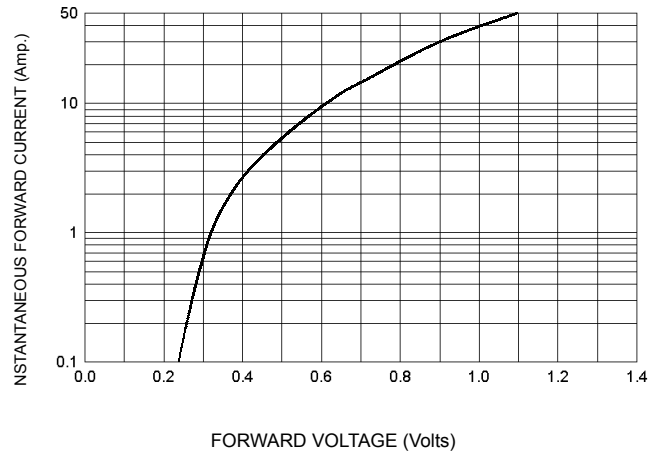


FIG-3 TYPICAL REVERSE CHARACTERISTICS

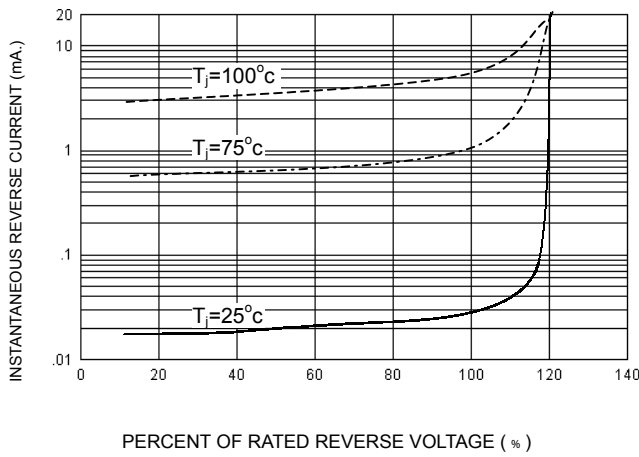


FIG-4 TYPICAL JUNCTION CAPACITANCE

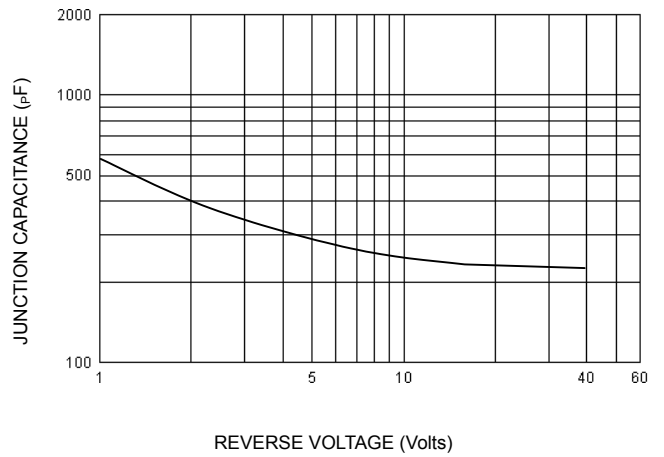
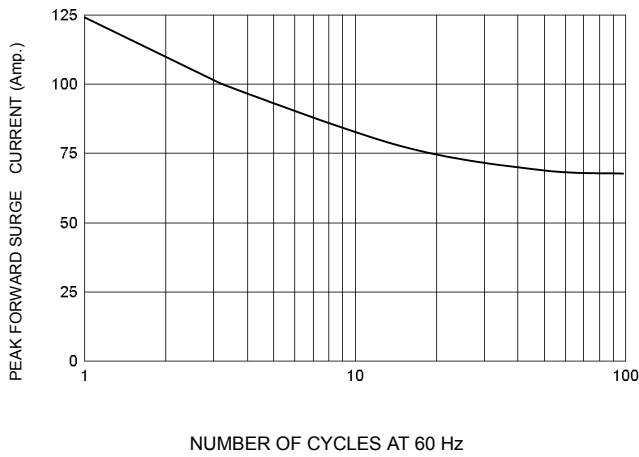


FIG-5 PEAK FORWARD SURGE CURRENT



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