

Power Schottky Rectifier - 10Amp 45Volt

Features

- Plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- High Junction Temperature Capability
- Low forward voltage, high current capability
- High surge capacity
- Low power loss, high efficiency
- Halogen-Free

Application

- Switching-Mode Power Supply
- Solar-System Control Box

Absolute maximum ratings

Symbol	Ratings	Unit	Conditions
$I_F(AV)$	10	A	Average Forward Current
V_{RRM}	45	V	Repetitive Peak Reverse Voltage
I_{FSM}	120	A	Peak Forward Surge Current
V_F	0.52	V	Forward Voltage Drop
T_j, T_{stg}	-50 to +175	°C	Operating and Storage Temperature

Electrical characteristics

Parameters	Symbol	Ratings	Conditions
Maximum Instantaneous Forward Voltage	V_F	0.68V	Per Leg at $I_F = 5A$ $T_c = 25^\circ C$
		0.52V	$T_c = 125^\circ C$
Maximum Reverse Leakage Current	I_R	0.05mA	Per Leg at $V_R = 45V$ $T_c = 25^\circ C$
		10mA	$T_c = 125^\circ C$
Typical Thermal Resistance, Junction to Case	$R_{\theta(j-c)}$	2.2 °C/W	Per Leg TO-220AB / TO-262 / TO-263
		4.5 °C/W	ITO-220AB

Note : 1.Mounted on P.C.B with copper pad size 20mm x 30mm, thickness 1.5mm
 2.Reverse Surge 3.0A @ 0.004ms, 10 cycle
 3.Repetitive Peak Reverse Current (IRRM) 0.5A @ Per Leg at $t_p = 2\mu s$, 1kHz

August 2015 / Rev.7.0

MBR10B45CTH/FCTH/CRH/CGH

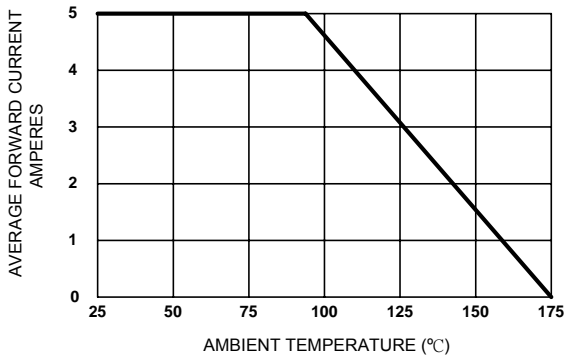


Figure 1. Forward Current Derating Curve

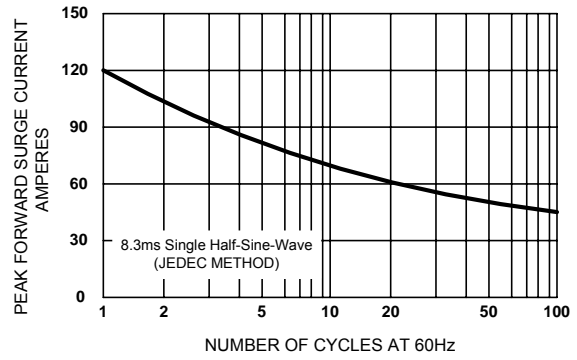


Figure 2. Maximum Non-repetitive Surge Current

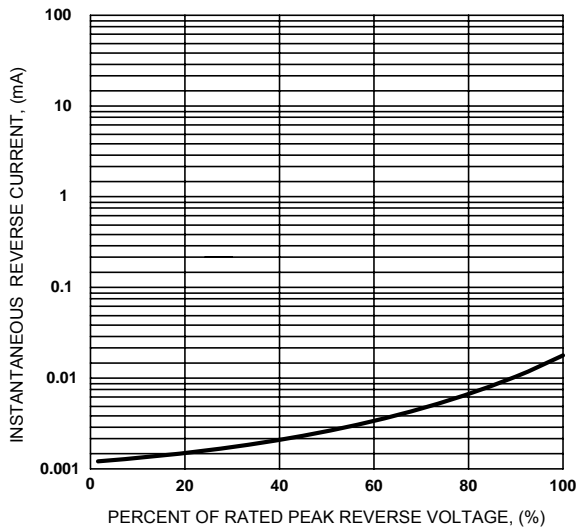


Figure 3. Typical Reverse Characteristics

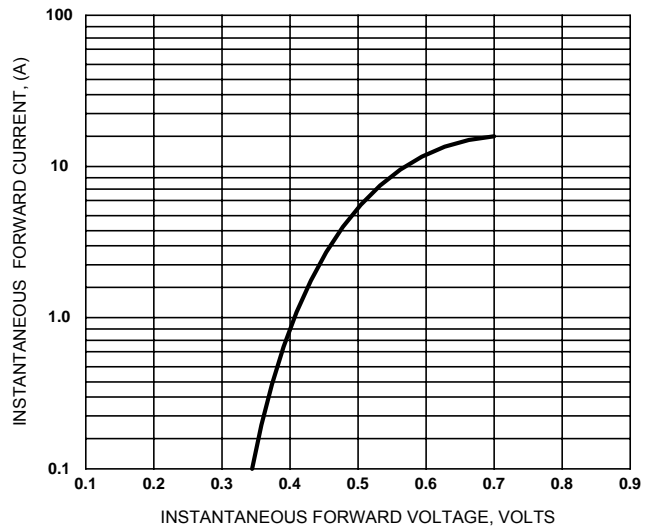


Figure 4. Typical Forward Characteristics

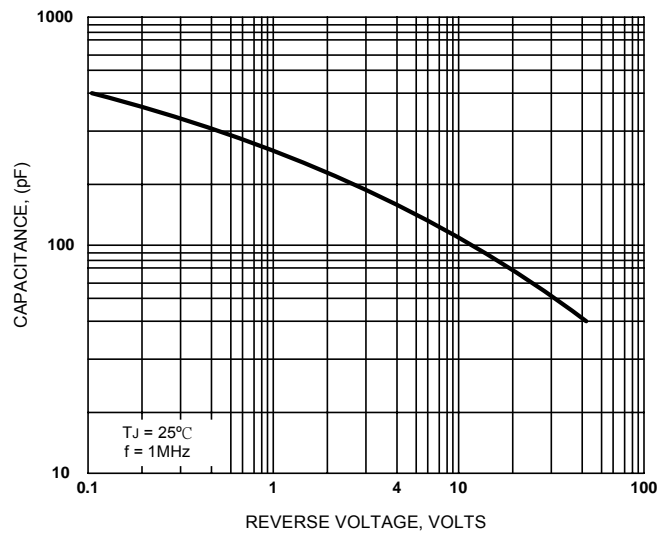


Figure 5. Typical Junction Capacitance



Sirectifier Semiconductor Inc.

U.S.A.: sgc@sirect.com

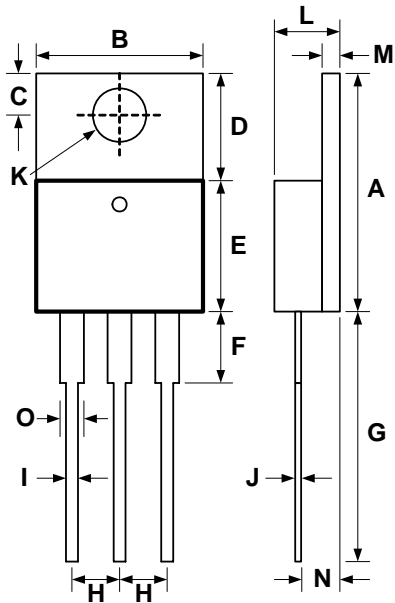
China: st@sirect.com

Taiwan: se@sirect.com

Hong Kong: hk@sirect.com

MBR10B45CTH

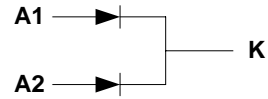
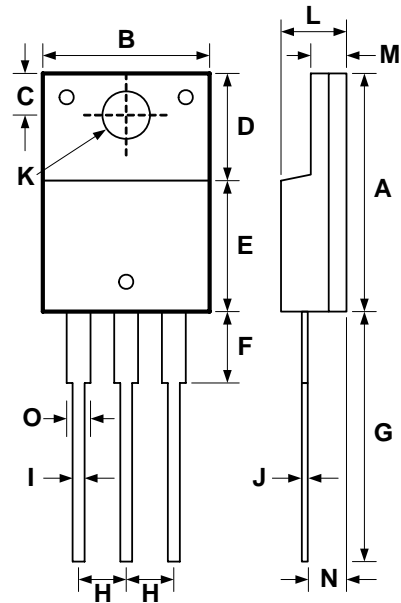
TO-220AB



DIMENSIONS					NOTE
DIM	INCHES		MILLIMETERS		
	MIN	MAX	MIN	MAX	
A	.593	.612	15.05	15.55	
B	.392	.411	9.95	10.45	
C	.104	.116	2.65	2.95	
D	.244	.264	6.20	6.70	
E	.339	.358	8.60	9.10	
F	.154	.173	3.90	4.40	
G	.539	.559	13.70	14.20	
H	.096	.108	2.45	2.75	
I	.028	.037	0.70	0.95	
J	.012	.020	0.30	0.50	
K	.146	.157	3.70	4.00	
L	.175	.187	4.45	4.75	
M	.045	.057	1.15	1.45	
N	.098	.114	2.50	2.90	
O	.047	.057	1.20	1.45	

MBR10B45FCTH

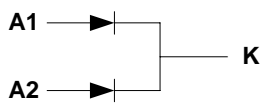
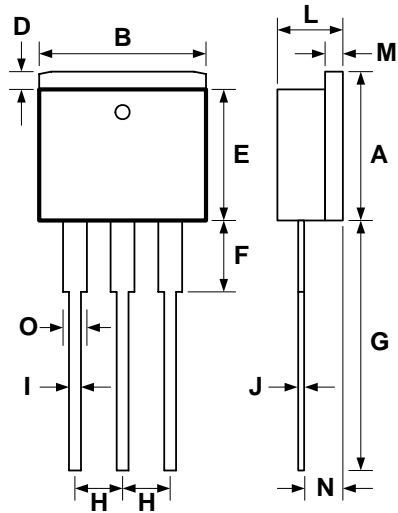
ITO-220AB



DIMENSIONS					NOTE
DIM	INCHES		MILLIMETERS		
	MIN	MAX	MIN	MAX	
A	.585	.604	14.85	15.35	
B	.386	.406	9.80	10.30	
C	.100	.112	2.55	2.85	
D	.250	.270	6.35	6.85	
E	.325	.344	8.25	8.75	
F	.132	.152	3.35	3.85	
G	.520	.539	13.20	13.70	
H	.096	.108	2.45	2.75	
I	.020	.028	0.50	0.70	
J	.020	.028	0.50	0.70	
K	.120	.132	3.05	3.35	
L	.169	.185	4.30	4.70	
M	.114	.130	2.90	3.30	
N	.098	.114	2.50	2.90	
O	.043	.055	1.10	1.40	

MBR10B45CRH

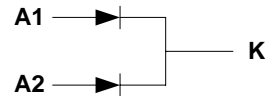
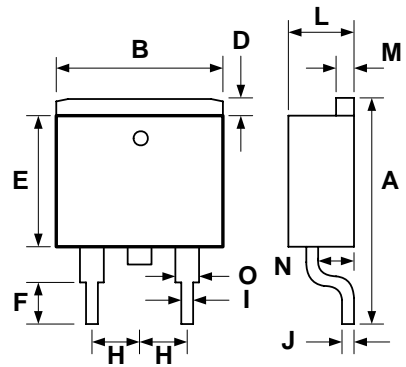
T0-262



DIM	DIMENSIONS				NOTE
	INCHES		MILLIMETERS		
	MIN	MAX	MIN	MAX	
A	.398	.417	10.10	10.60	
B	.391	.411	9.95	10.45	
D	.049	.065	1.25	1.65	
E	.338	.358	8.60	9.10	
F	.153	.173	3.90	4.40	
G	.539	.559	13.70	14.20	
H	.096	.108	2.45	2.75	
I	.027	.037	0.70	0.95	
J	.012	.020	0.30	0.50	
L	.175	.187	4.45	4.75	
M	.045	.057	1.15	1.45	
N	.098	.114	2.50	2.90	
O	.047	.057	1.20	1.45	

MBR10B45CGH

T0-263



DIM	DIMENSIONS				NOTE
	INCHES		MILLIMETERS		
	MIN	MAX	MIN	MAX	
A	.590	.610	15.00	15.50	
B	.391	.411	9.95	10.45	
D	.049	.065	1.25	1.65	
E	.338	.358	8.60	9.10	
F	.087	.106	2.20	2.70	
H	.096	.108	2.45	2.75	
I	.027	.037	0.70	0.95	
J	.012	.020	0.30	0.50	
L	.175	.187	4.45	4.75	
M	.045	.057	1.15	1.45	
N	.098	.114	2.50	2.90	
O	.047	.057	1.20	1.45	