



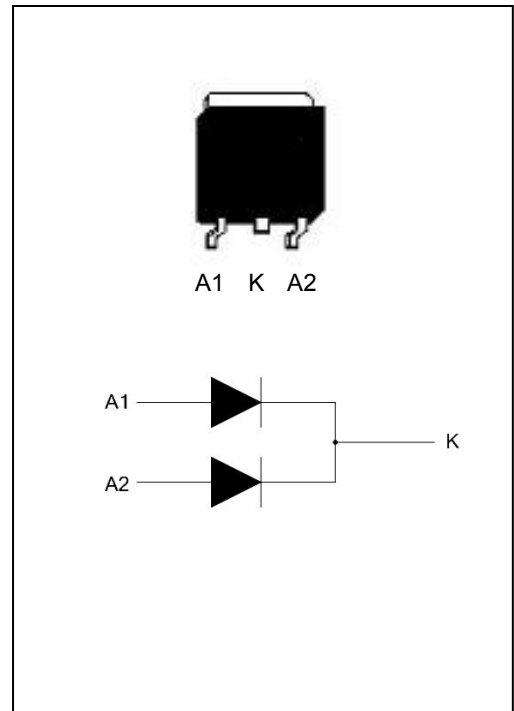
MBRS1045CTL 10A High Voltage Power Schottky Rectifier

General Description

High voltage dual Schottky rectifier suited for switch mode power supplies and other power converters. This device is intended for use in medium voltage operation, and particularly, in high frequency circuits where low switching losses and low noise are required.

Main Product Characteristics

symbol	value	unit
$I_{F(AV)}$	2x5	A
V_{RRM}	45	V
V_F	≤ 0.7	V
T_J	150	$^{\circ}\text{C}$



Features

- High Surge Capacity
- 150 $^{\circ}\text{C}$ Operating Junction Temperature
- 10A Total (5A Per Diode Leg)
- Low V_F
- Guard-ring for Stress Protection
- Pb-free Packages are Available

Absolute Maximum Ratings (Per Diode Leg)

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-55~150	$^{\circ}\text{C}$
Operating junction temperature range	T_j	150	$^{\circ}\text{C}$
Repetitive peak reverse voltage ($T_j=25^{\circ}\text{C}$)	V_{RRM}	45	V
Maximum RMS voltage	V_{RMS}	31	V
DC Blocking Voltage	V_R	45	V
Average Rectified Forward Current(Rated V_R) $T_C=142^{\circ}\text{C}$	$I_{F(AV)}$	10	A



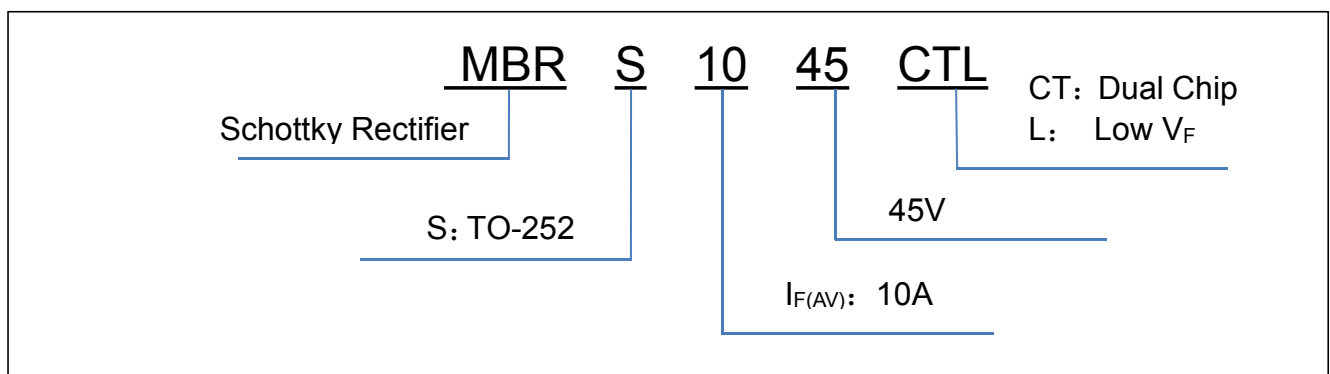
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Peak Repetitive Forward Current (Rated V_R , Square Wave, 20kHz) $T_C=142^\circ\text{C}$	I_{FRM}	10	A
Non Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Half Wave, Single Phase, 60Hz)	I_{FSM}	150	A
Voltage Rate of Change (Rated V_R)	dv/dt	10000	V/ μs

Electrical Characteristics ($T_j=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Value (Max)	Unit
Maximum Instantaneous Forward Voltage Drop	V_F	$I_F=5\text{A}$	0.7	V
Maximum Instantaneous Reverse Current Drop	I_R	$V_R=45\text{V}$	5	μA

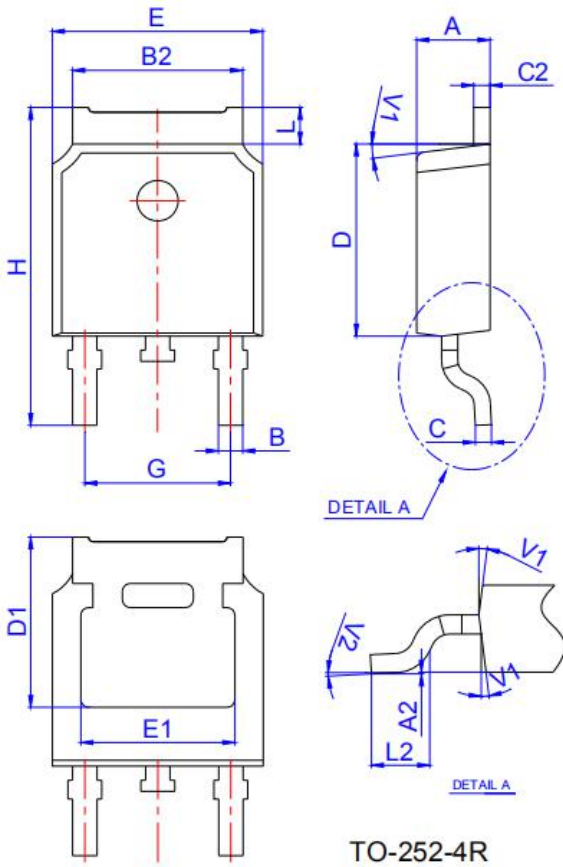
Ordering Information





MBRS1045CTL 10A High Voltage Power Schottky Rectifier

Package Mechanical Data



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.10		2.50	0.083		0.098
A2	0		0.10	0		0.004
B	0.66		0.86	0.026		0.034
B2	5.18		5.48	0.202		0.216
C	0.40		0.60	0.016		0.024
C2	0.44		0.58	0.017		0.023
D	5.90		6.30	0.232		0.248
D1	5.30REF			0.209REF		
E	6.40		6.80	0.252		0.268
E1	4.63			0.182		
G	4.47		4.67	0.176		0.184
H	9.50		10.70	0.374		0.421
L	1.09		1.21	0.043		0.048
L2	1.35		1.65	0.053		0.065
V1		7°			7°	
V2		0°	6°	0°		6°

FIG.1- FORWARD CURRENT DERATING CURVE

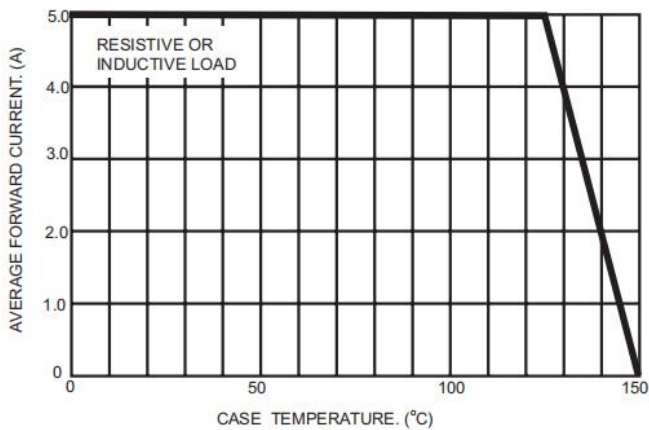
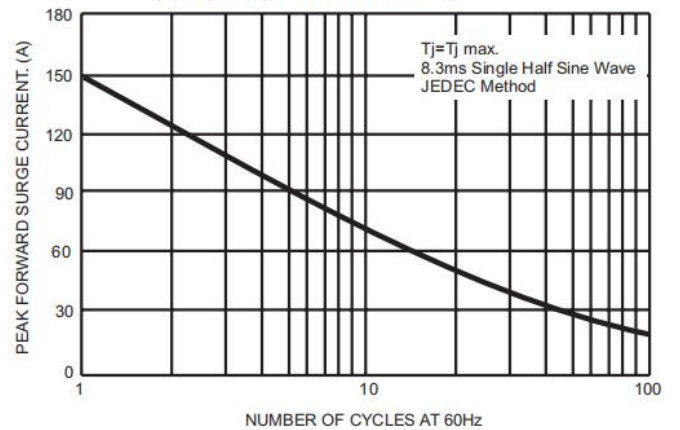


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG





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FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

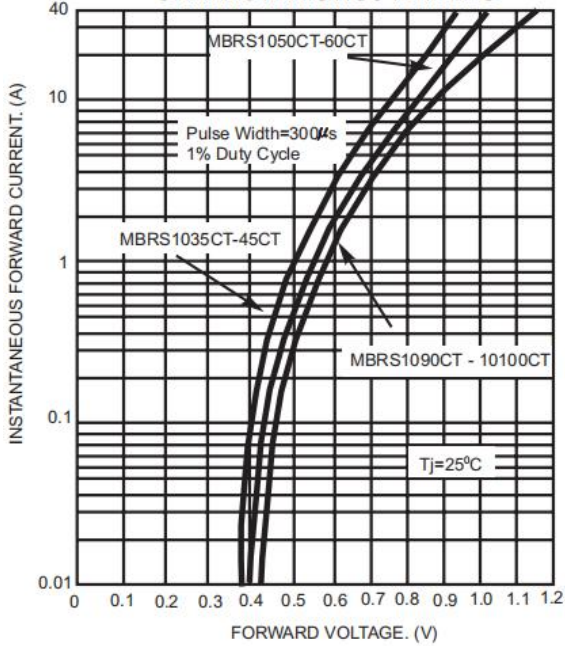


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

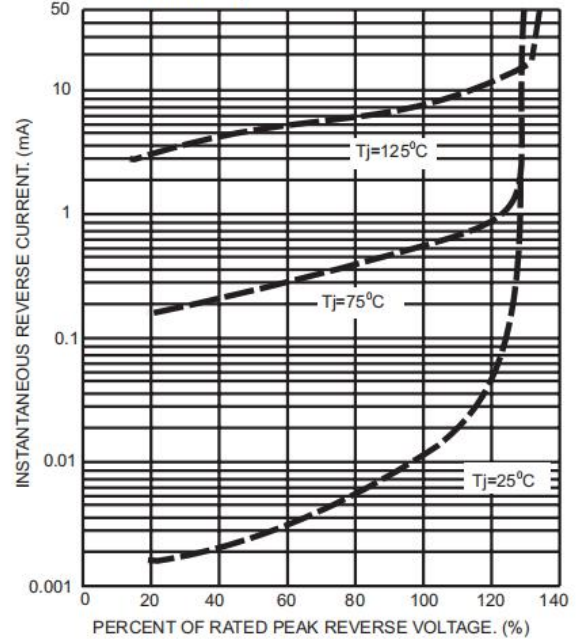


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

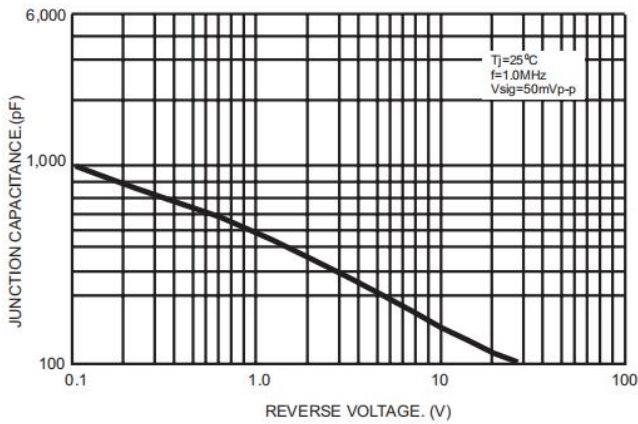
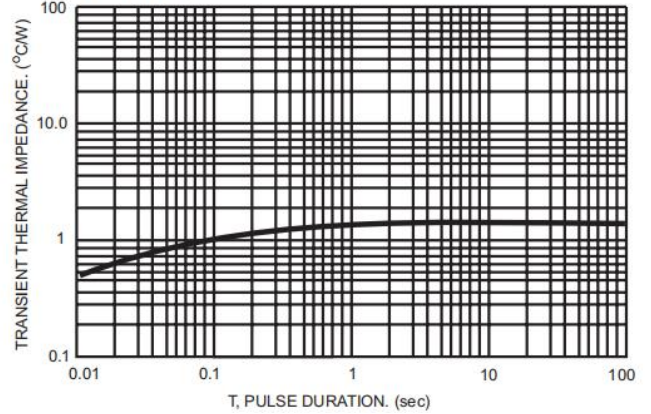


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS PER LEG



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