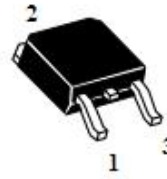


## MBR2045GCT&MBR2045DCT

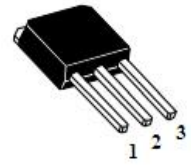
### 20.0AMPS. SCHOTTKY BARRIER RECTIFIERS

#### FEATURE

- . High current capability
- . Low forward voltage drop
- . Low power loss, high efficiency
- . High surge capability
- . High ESD capability
- . High temperature soldering guaranteed  
260°C /10seconds, 0.25"(6.35mm)from case.



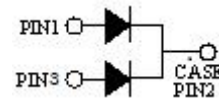
TO-252-2L  
MBR2045GCT



TO-251-3L  
MBR2045DCT

#### MECHANICAL DATA

- . Case: Molded with UL-94 Class V-0 recognized  
Flame Retardant Epoxy
- . Mounting position: any



Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%

#### MAXIMUM RATINGS (T<sub>C</sub>=25°C unless otherwise noted)

Parameter	Symbol	MBR2045GCT&MBR2045DCT	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	45	V
Maximum RMS Voltage	$V_{RMS}$	32	V
Maximum DC blocking Voltage	$V_{DC}$	45	V
Maximum Average Forward Rectified Current <i>Per Leg</i> at T <sub>C</sub> =100°C <i>Total device</i>	$I_{F(AV)}$	10.0 20.0	A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method) <i>Per Leg</i>	$I_{FSM}$	150.0	A
Typical Junction Capacitance (Note 1)	$C_J$	500	pF
Operation Junction Temperature and Storage Temperature	$T_J, T_{STG}$	-55 to +150	°C

#### ELECTRICAL CHARACTERISTICS-Per Leg (T<sub>C</sub>=25°C unless otherwise noted)

Parameter	Symbol	Test conditions	Typ	Max	Units	
Forward voltage drop	$V_F$	$T_J=25\text{ }^\circ\text{C}$	IF= 5.0A	0.51	----	V
			IF=10.0A	0.58	0.75	
		$T_J=125\text{ }^\circ\text{C}$	IF= 5.0A	0.42	----	
			IF=10.0A	0.52	0.60	
Reverse leakage Current	$I_R$	$T_J=25\text{ }^\circ\text{C}$	VR=45V	----	250	μA
		$T_J=125\text{ }^\circ\text{C}$	VR=45V	----	30.0	mA

#### THERMAL CHARACTERISTICS(T<sub>C</sub>=25°C unless otherwise noted)

Parameter	Symbol	MBR2045GCT	MBR2045DCT	Units
Typical Thermal Resistance (Note 2)	$R_{(JC)}$	6.5	6.5	°C/W

#### Notes:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
2. Thermal Resistance from Junction to Case

**RATING AND CHARACTERISTIC CURVE**

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

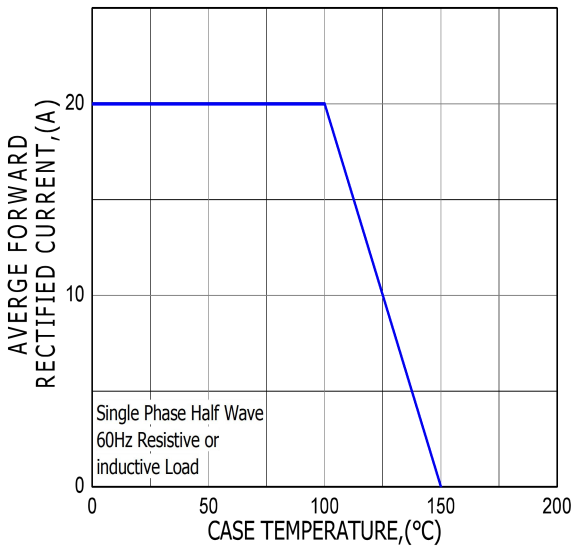


FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

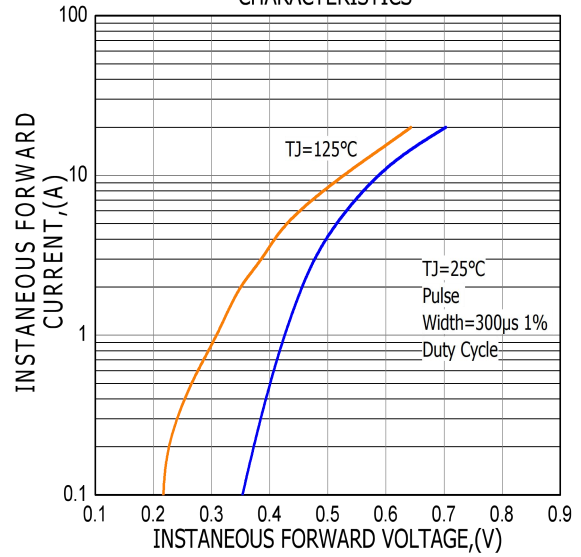


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

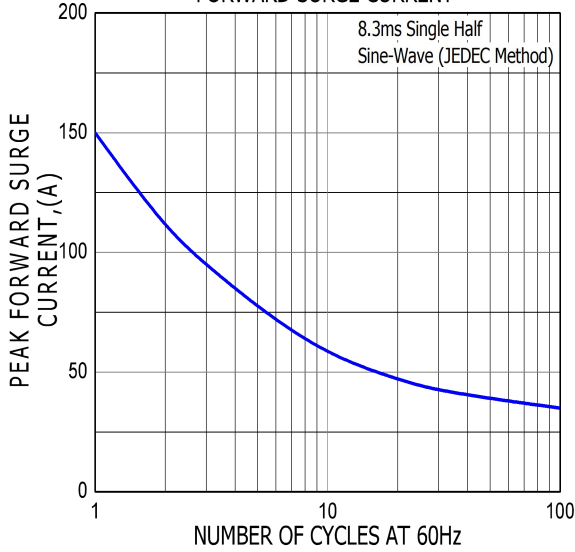
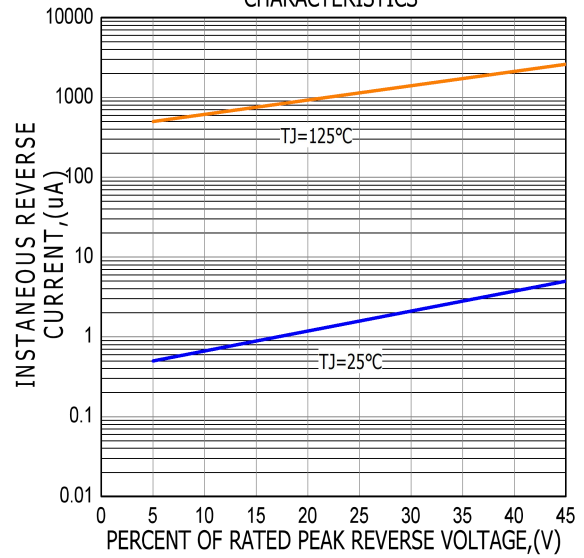
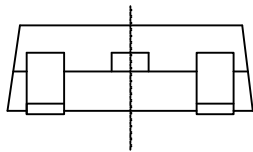
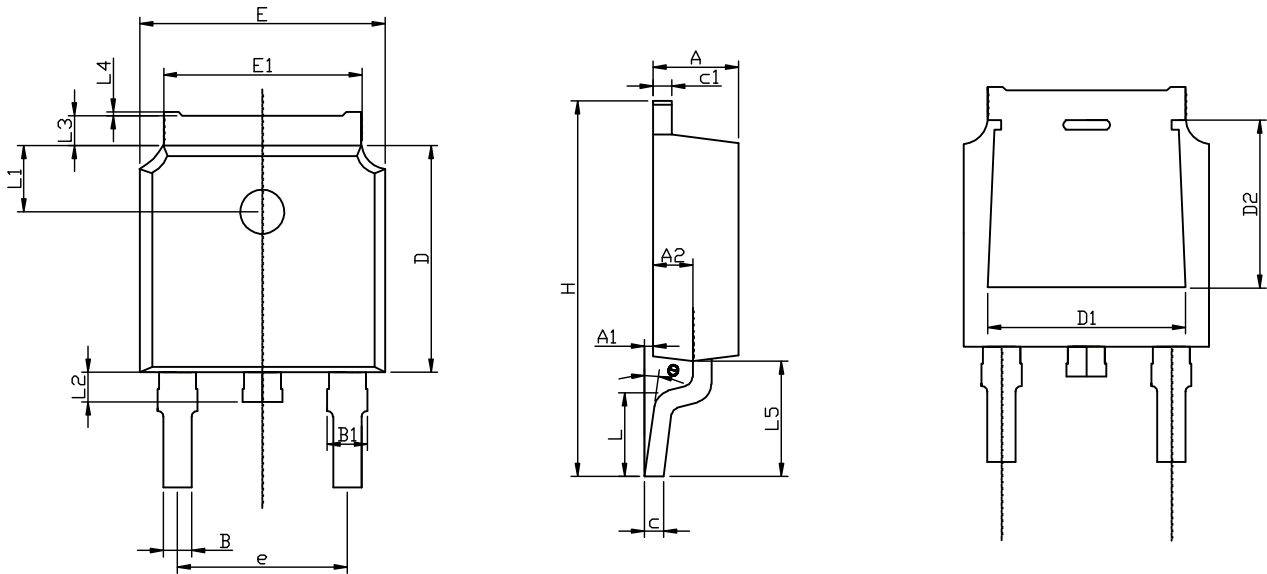


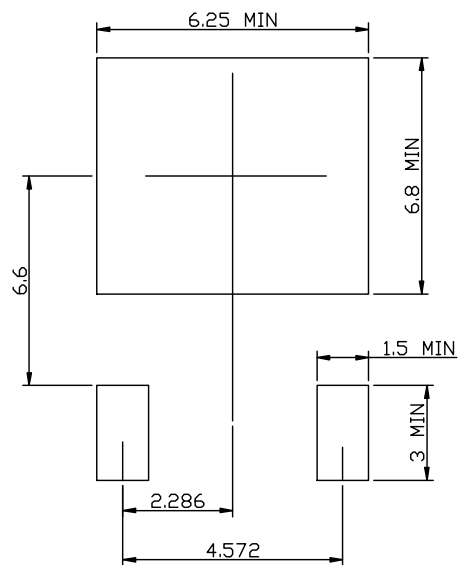
FIG.4-TYPICAL REVERSE CHARACTERISTICS



# TO-252-2L PACKAGE OUTLINE



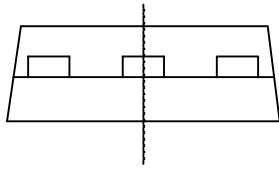
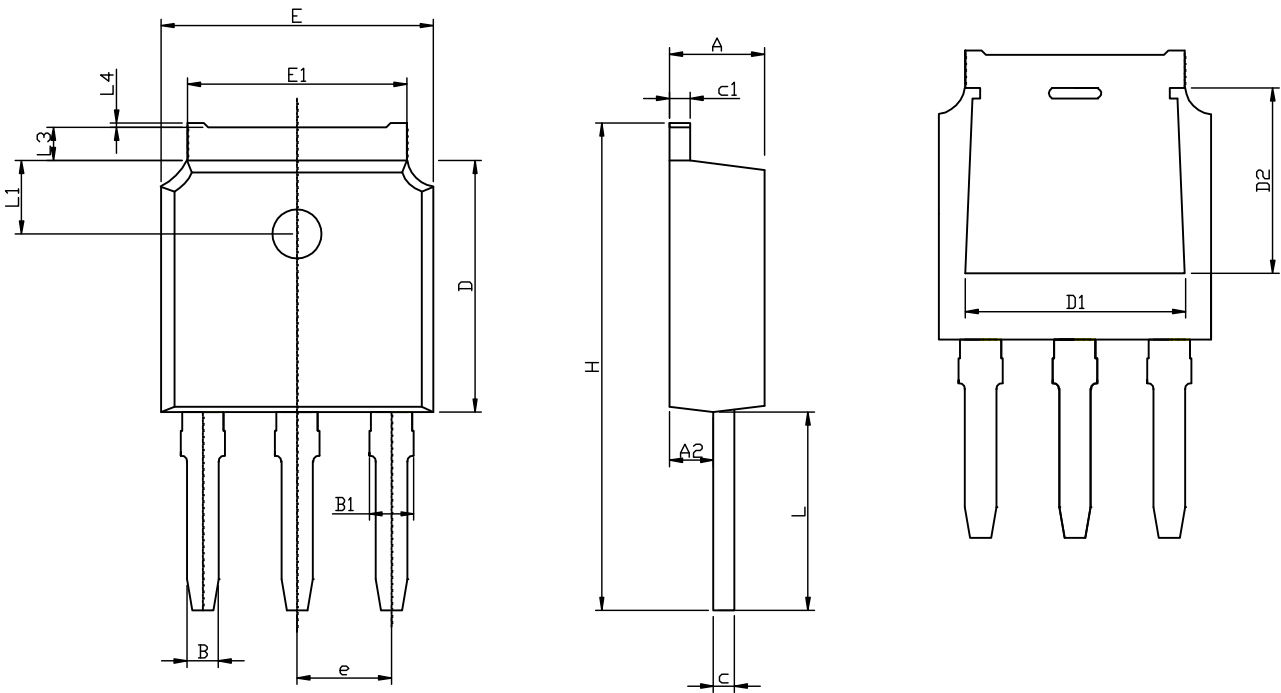
## RECOMMENDED LAND PATTERN



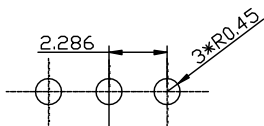
	MIN	NOM	MAX
A	2.15	2.30	2.45
A1	0.05	0.10	0.20
A2	0.91	1.07	1.22
B	0.66	0.76	0.86
B1	0.93	1.08	1.23
C	0.40	0.50	0.60
C1	0.40	0.50	0.60
D	5.95	6.10	6.25
D1	-	4.8REF	-
D2	-	3.8REF	-
E	6.45	6.60	6.75
E1	5.12	5.32	5.52
L		1.65	
L1	1.58	1.78	1.98
L2	0.60	0.80	1.00
L3	0.70	0.85	1.00
L4	0.00	0.05	0.20
L5	2.80	3.10	3.40
H	9.80	10.10	10.40
Θ	0°		8°
e		4.572REF	

UNIT: mm

## TO-251-3L PACKAGE OUTLINE



RECOMMENDED LAND PATTERN



UNIT: mm

	MIN	NOM	MAX
A	2.15	2.30	2.45
A2	0.91	1.07	1.22
B	0.66	0.76	0.86
B1	0.93	1.08	1.23
C	0.40	0.50	0.60
C1	0.40	0.50	0.60
D	5.95	6.10	6.25
D1	-	4.8REF	-
D2	-	3.8REF	-
E	6.45	6.60	6.75
E1	5.12	5.32	5.52
L	4.50	4.80	5.10
L1	1.58	1.78	1.98
L3	0.70	0.85	1.00
L4	0.00	0.05	0.20
H	11.50	11.80	12.10
e		2.286REF	