

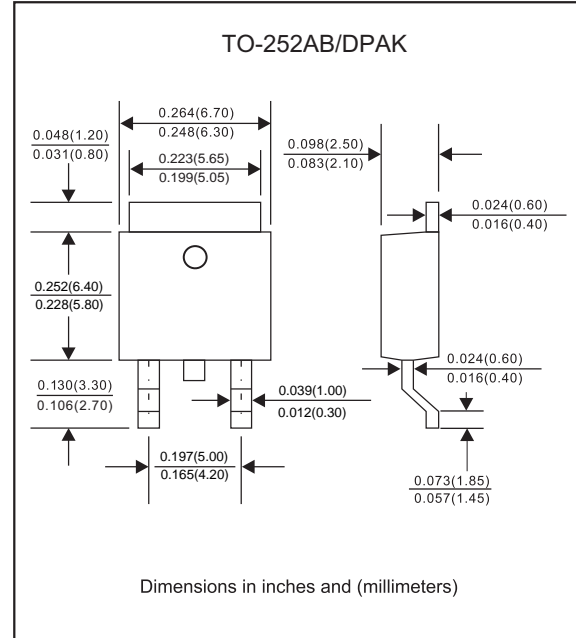
Features

- Low forward voltage drop
- Low switching losses
- High surge capacity

Mechanical data

- Case: TO-252AB
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208

Package outline



Maximum ratings and Electrical Characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	I_O			20	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			200	A
Reverse current	$V_R = V_{RRM}$ $T_A = 25^\circ\text{C}$	I_R			0.1	mA
	$V_R = V_{RRM}$ $T_A = 125^\circ\text{C}$				50	
Diode junction capacitance	$f=1\text{MHz}$ and applied 4V DC reverse voltage	C_J		327		pF
	$f=1\text{MHz}$ and applied 45V DC reverse voltage			115		
Storage temperature		T_{STG}	-55		+150	$^\circ\text{C}$

SYMBOLS	V_{RRM}^{*1} (V)	V_{RMS}^{*2} (V)	V_R^{*3} (V)	V_F^{*4} (V)	Operating emperature T_J , ($^\circ\text{C}$)
MBR2045YD	45	32	45	0.63	-55 to +150

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage
 $I_F = 20\text{A}$, 25°C

Rating and characteristic curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

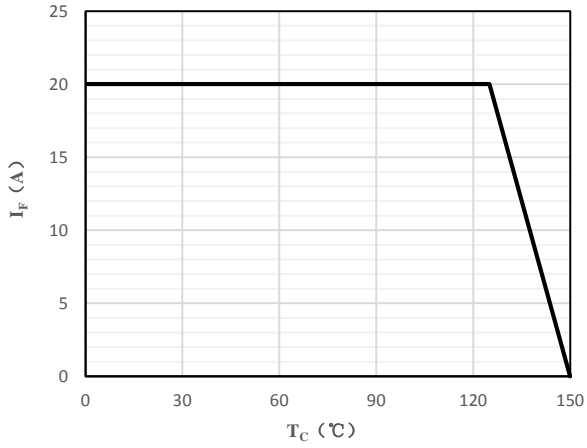


Fig 1 Forward Derating Curve

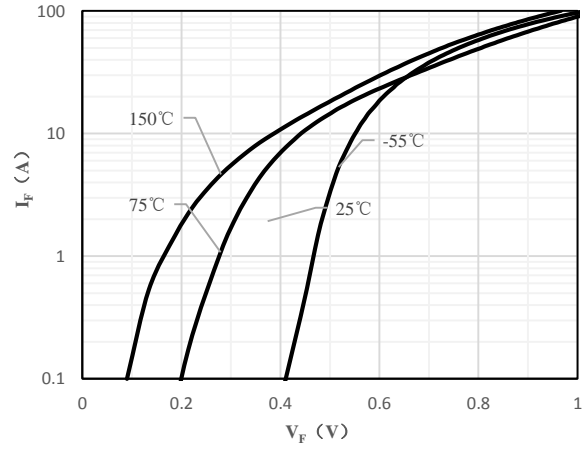


Fig 2 Typical Forward Characteristic

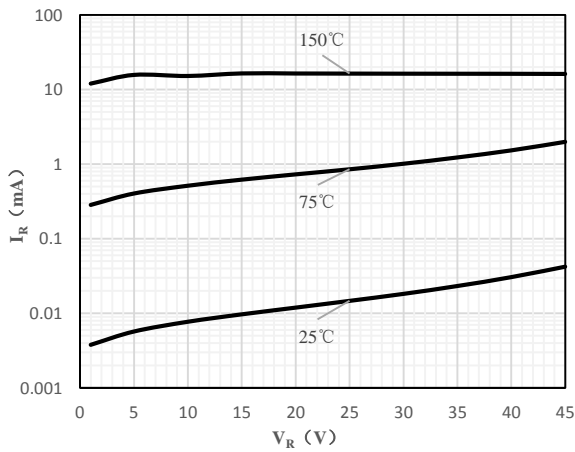


Fig 3 Typical Reverse Characteristic

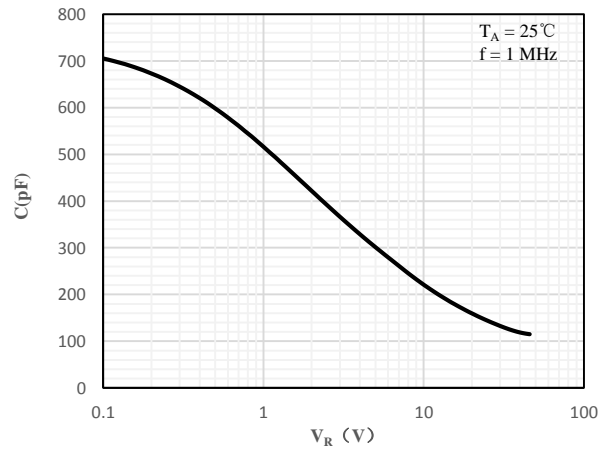
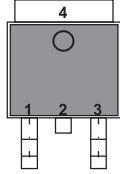
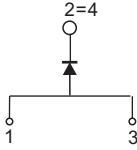


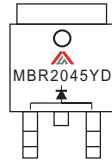
Fig 4 Capacitance vs. Reverse Voltage



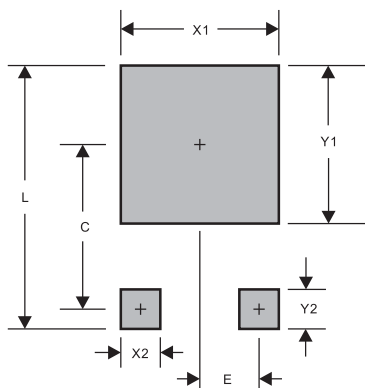
Pinning information

Pin	Simplified outline	Symbol
Pin1 anode Pin2=4 cathode Pin3 anode		

Marking

Type number	Marking code	Example
MBR2045YD	MBR2045YD	

Suggested solder pad layout



PACKAGE	DPAK
C	0.248 (6.30)
E	0.091 (2.30)
L	0.433 (11.00)
X1	0.252 (6.40)
X2	0.071 (1.80)
Y1	0.268 (6.80)
Y2	0.106 (2.70)

Dimensions in inches and (millimeters)