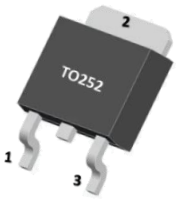
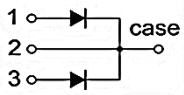
■ DESCRIPTION

The MBR1045CS is a Schottky Barrier Rectifier with high efficiency, low power dissipation and high current capacity. It can be applied in high frequency, low voltage inverters, polarity protection and free wheeling applications.



1. ANODE
2. CATHODE
3. ANODE



)

■ FEATURE

* High surge capability
* High efficiency, low power dissipation, high current capability, low forward voltage drop
* Guardring for overvoltage protection

■ ABSOLUTE MAXIMUM RATINGS(TA=25°C, unless otherwise specified.)

PARAMETER		SYMBOL	RATINGS	UNIT
DC Blocking Voltage		V_{RM}	45	V
Working Peak Reverse Voltage		V_{RWM}	45	V
Peak Repetitive Reverse Voltage		V_{RRM}	45	V
RMS Reverse Voltage		$V_{R(RMS)}$	31.5	V
Average Rectified Output Current (TC=105°C)	Per Leg	I_O	5	A
	Total		10	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load		I_{FSM}	100*2	A
Operating Junction Temperature		T_J	+150	°C
Storage Temperature		T_{STG}	-55 ~ +150	°C

Note: 1. Single phase, half wave, 60Hz, resistive or inductive load. For capacitance load, derate current by 20%.

2. Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

3. Thermal resistance junction to case mounted on heatsink.

■ THERMAL DATA

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	TO-220F	θJA	60	°C/W
	TO-252		110	°C/W
Junction to Case	TO-220F	θJC	4	°C/W
	TO-252		6	°C/W

■ ELECTRICAL CHARACTERISTICS (TA=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	I_R=0.2mA	45			V
Forward Voltage Drop	V_{FM}	I_F=5A			0.7	V
Leakage Current (Note 1)	I_{RM}	V_R=45V			200	μA

Notes: 1. Short duration pulse test used to minimize self-heating effect.
2. Thermal resistance junction to case mounted on heatsink.

■ TYPICAL CHARACTERISTICS

FIG.1: FORWARD CURRENT DERATING CURVE

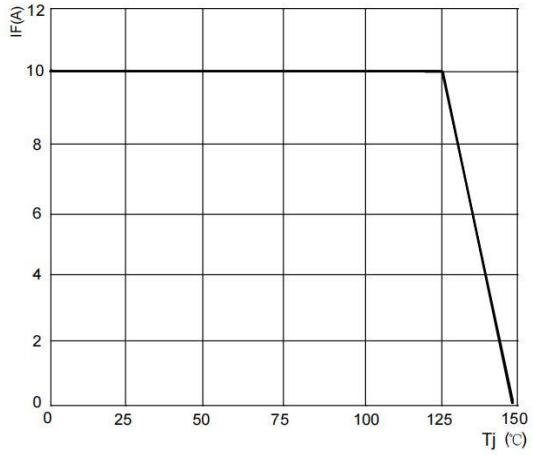


FIG.2: TYPICAL FORWARD CHARACTERISTICS

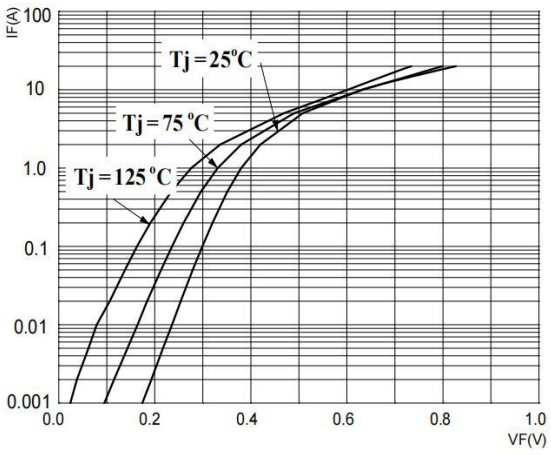


FIG.3: TOTAL CAPACITANCE DERATING CURVE

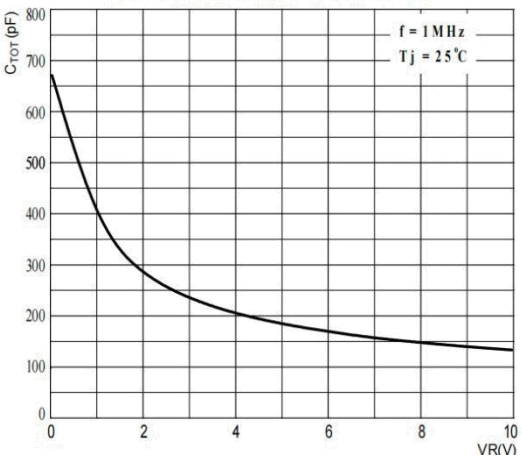
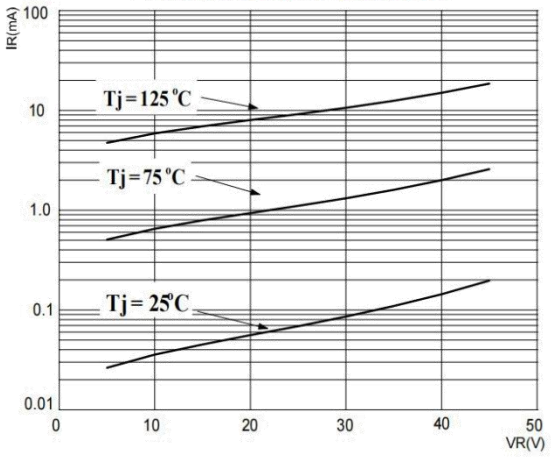
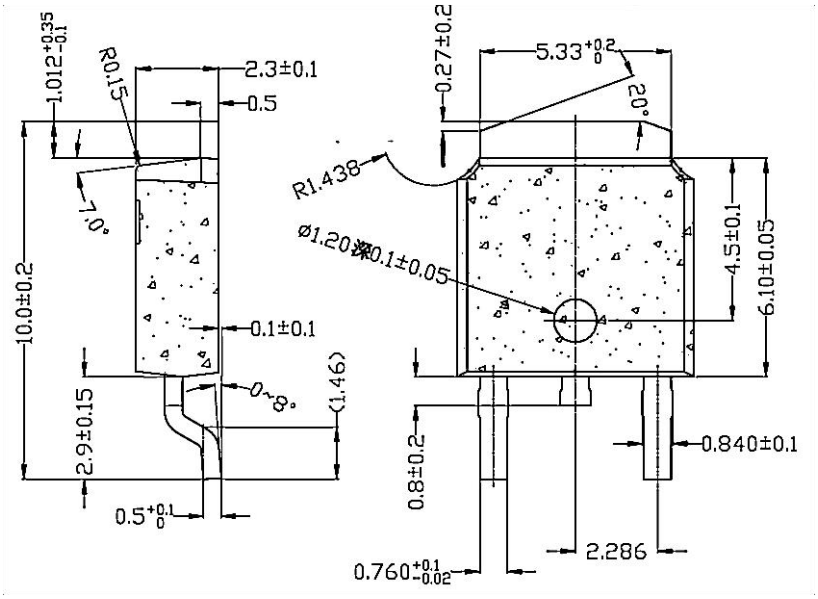
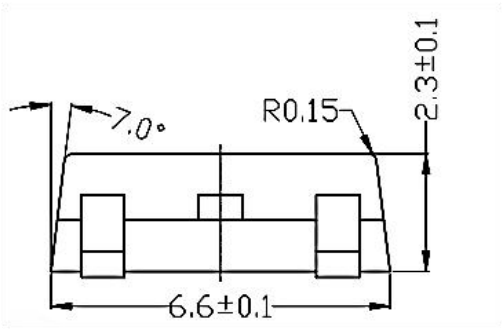


FIG.4: TYPICAL REVERSE CHARACTERISTICS



■ TO - 252 Package Outline Dimensions





■ TO - 252 Packing Information

Package version	Reel dimensions Φ×H (mm)	Per Reel (pcs)	Reels per box	Inner box dimensions L×W×H(mm)	Outer box (pcs)	Outer box dimensions L×W×H (mm)
TO-252	Φ330*20	2500	2	360*340*50	25000	375*375*280