MBR2530CT-MBR25100CT

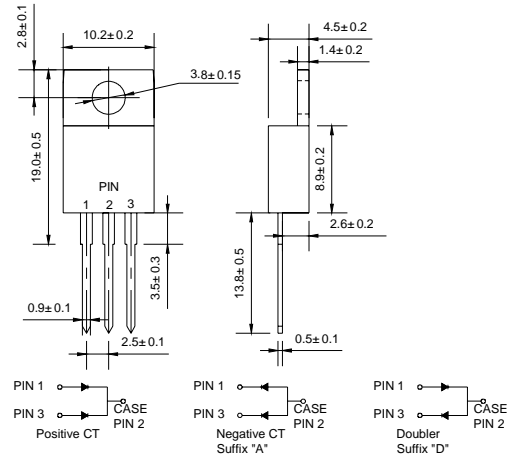## Schottky Barrier Rectifiers

VOLTAGE RANGE: 30 - 100 V
CURRENT: 30 A

TO-220AB

Features

◇ High surge capacity.

◇ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.

◇ Metal silicon junction, majority carrier conduction.

◇ High current capacity, low forward voltage drop.

◇ Guard ring for over voltage protection.

Mechanical Data

◇ Case:JEDEC TO-220AB,molded plastic body

◇ Polarity: As marked

◇ Position: Any

◇ Weight: 0.071ounce, 2.006 grams

Dimensions in millimeters

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.

Single phase,half wave,60Hz,resistive or inductive load.For capacive load,derate current by 20%.

		MBR 2530CT	MBR 2535CT	MBR 2540CT	MBR 2545CT	MBR 2550CT	MBR 2560CT	MBR 2580CT	MBR 25100CT	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	30	35	40	45	50	60	80	100	V
Maximum RMS Voltage	V_{RMS}	21	25	28	32	35	42	56	70	V
Maximum DC blocking voltage	V_{DC}	30	35	40	45	50	60	80	100	V
Maximum average forward total device rectified current @T_C = 130°C	$I_{F(AV)}$	30								A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	150								A
Maximum forward voltage (Note 1) (I_F=15A,T_C=25 ℃)	V_F	-				0.75		0.85		V
(I_F=15A,T_C=125 ℃)		-				0.65		-		
(I_F=30A,T_C=25℃)		0.82				-		-		
(I_F=30A,T_C=125℃)		0.73				-		-		
Maximum reverse current @T_C=25℃	I_R	0.2				1.0				m A
at rated DC blocking voltage @T_C=125℃		40				50				
Maximum thermal resistance (Note2)	$R_{\theta JC}$	1.5								℃/W
Operating junction temperature range	T_J	- 55 ---- + 150								℃
Storage temperature range	T_{STG}	- 55 ---- + 150								℃

NOTE: 1. Pulse test:300μs pulse width,1% duty cycle.

2. Thermal resistance from junction to case.

Ratings AND Charactieristic Curves
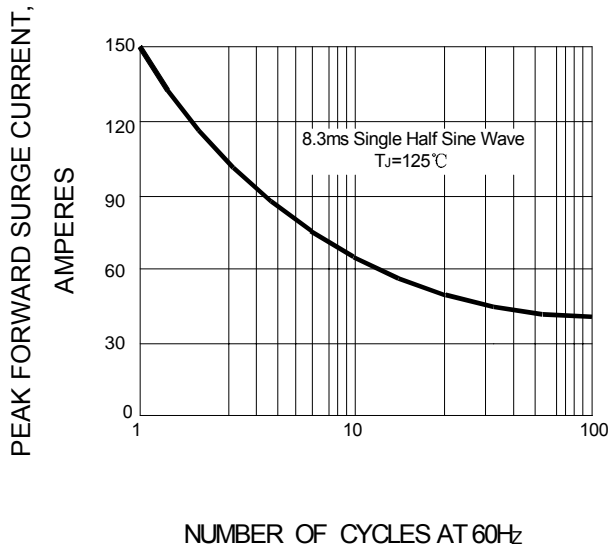
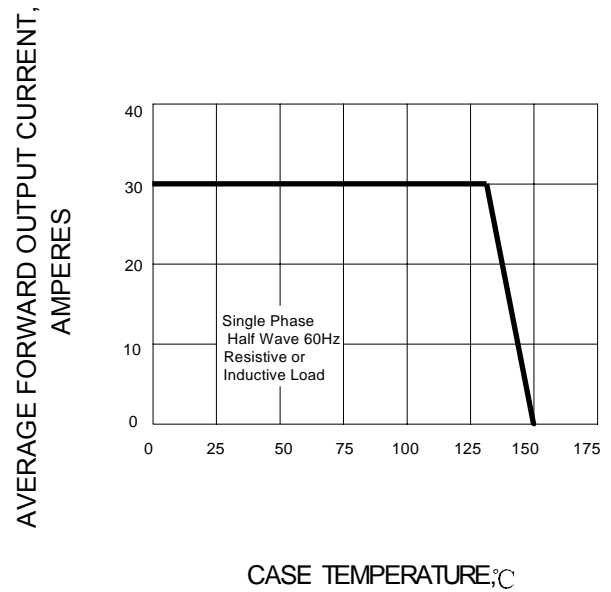### FIG.1 – PEAK FORWARD SURGE CURRENT

PEAK FORWARD SURGE CURRENT, AMPERES

8.3ms Single Half Sine Wave
$T_J=125℃$

NUMBER OF CYCLES AT 60Hz

FIG.2 – FORWARD DERATING CURVE

AVERAGE FORWARD OUTPUT CURRENT, AMPERES

Single Phase
Half Wave 60Hz
Resistive or
Inductive Load

CASE TEMPERATURE,℃

FIG.3 – TYPICAL FORWARD CHARACTERISTIC

INSTANTANEOUS FORWARD CURRENT, AMPERES

$T_J=125℃$

Pulse width = 300μs
1% Duty Cycle

$T_J=25℃$

MBR2530CT-MBR2545CT
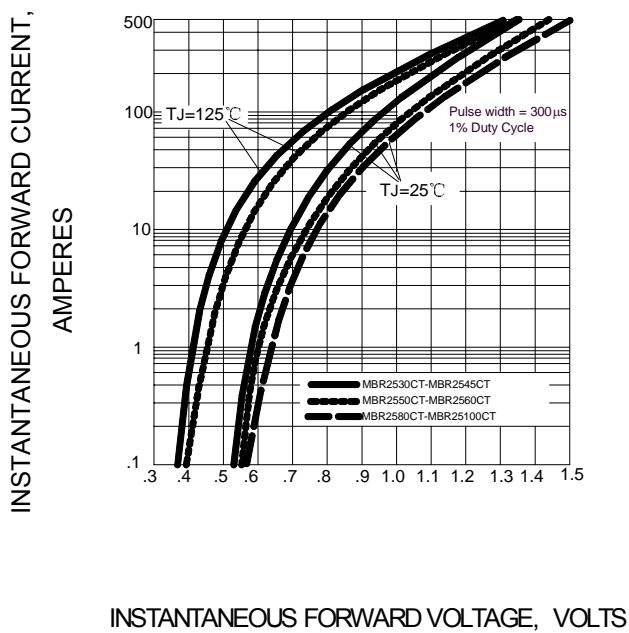MBR2550CT-MBR2560CT
MBR2580CT-MBR25100CT

INSTANTANEOUS FORWARD VOLTAGE, VOLTS

FIG.4 – TYPICAL REVERSE CHARACTERISTIC

INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

MBR2530CT-MBR2560CT

MBR2580CT-MBR25100CT

MBR2530CT-MBR2560CT

MBR2580CT-MBR25100CT

Tc=125
Tc=25

PERCENT OF RATED PEAK REVERSE VOLTAGE,%