SAMYANG ELECTRONICS *MBR1535CT--- MBR15200CT*

SCHOTTKY BARRIER RECTIFIER

VOLTAGE RANGE: 35 --- 300 V
CURRENT:15.0A

FEATURES

◇ Metal-semiconductor junction with guard ring
◇ Epitaxial construction
◇ Low forward voltage drop,low switching losses
◇ High surge capability
◇ For use in low voltage,high frequency inverters free wheeling,and polarity protection applications
◇ The plastic material carries U/L recognition 94V-0

MECHANICAL DATA

◇ Case:JEDEC TO-263 , molded plastic
◇ Terminals: Axial lead ,solderable per MIL- STD-202,Method 208
◇ Polarity: As marked
◇ Weight: 0.08ounces,2.24 grams
◇ Mounting position: Any

TO - 263   **D2PAK**
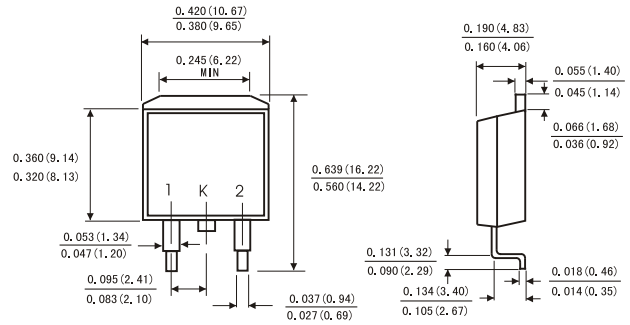
Dimensions in inches and (millimeters)
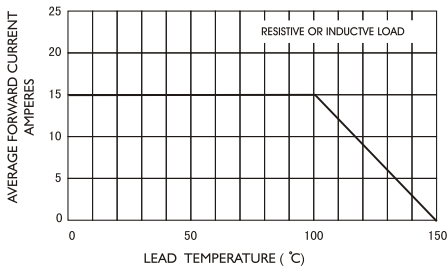
MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.

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

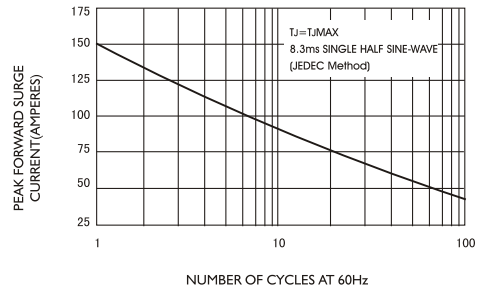|	Symbols	MBR 1535CT	MBR 1545CT	MBR 1550CT	MBR 1560CT	MBR 15100CT	MBR 15150CT	MBR 15200CT	Units
Maximum repetitive peak reverse voltage	V_{RRM}	35	45	50	60	100	150	200	Volts
Maximum RMS voltage	V_{RMS}	25	32	35	42	70	105	140	Volts
Maximum DC blocking voltage	V_{DC}	35	45	50	60	100	150	200	Volts
Maximum average forward rectified current(see Fig.1) Per leg / Total device	$I_{(AV)}$	7.5 / 15.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	150.0							Amps
Maximum instantaneous forward voltage at 15 A	V_F	0.60		0.75		0.85	0.90	0.95	Volts
Maximum instantaneous reverse current at rated DC blocking voltage(Note 1) $T_c=25℃$	I_R	0.2							mA
Maximum instantaneous reverse current at rated DC blocking voltage(Note 1) $T_c=125℃$	I_R	30			50				mA
Typical thermal resistance (Note 2)	$R_{θJC}$	3.0							℃/W
Operating junction temperature range	T_J	-65 to+150							℃
Storage temperature range	T_{STG}	-65 to+150							℃

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

2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
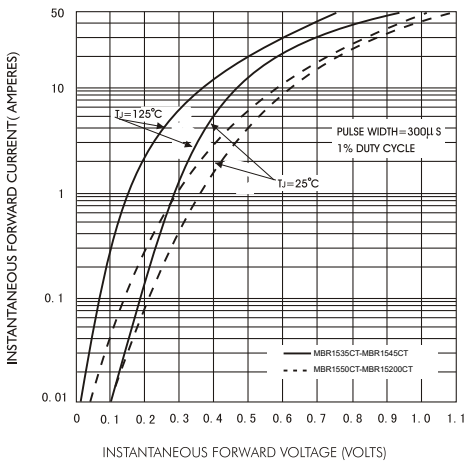
3.Thermal resistance junction to ambient
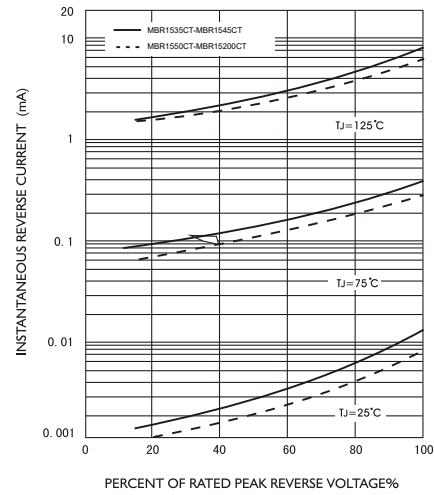
FIG.1-FORWARD CURRENT DERATING CURVE

RESISTIVE OR INDUCTVE LOAD

AVERAGE FORWARD CURRENT AMPERES

LEAD TEMPERATURE (℃)

FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

TJ=TJMAX
8.3ms SINGLE HALF SINE-WAVE
(JEDEC Method)

PEAK FORWARD SURGE CURRENT(AMPERES)

NUMBER OF CYCLES AT 60Hz

FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

$T_J = 125℃$

PULSE WIDTH=300μS
1% DUTY CYCLE

$T_J = 25℃$

INSTANTANEOUS FORWARD CURRENT (AMPERES)

MBR1535CT-MBR1545CT
MBR1550CT-MBR15200CT

INSTANTANEOUS FORWARD VOLTAGE (VOLTS)

FIG.4-TYPICAL REVERSE CHARACTERISTICS

MBR1535CT-MBR1545CT
MBR1550CT-MBR15200CT

INSTANTANEOUS REVERSE CURRENT (mA)

$T_J = 125℃$

$T_J = 75℃$

$T_J = 25℃$

PERCENT OF RATED PEAK REVERSE VOLTAGE%

FIG.5-TYPICAL JUNCTION CAPACITANCE

$T_J = 25℃$
$f = 1.0MHz$
Vsig=50mVp-p

JUNCTION CAPACITANCE(pF)

MBR1535CT-MBR1545CT
MBR1550CT-MBR15200CT

REVERSE VOLTAGE. VOLTS
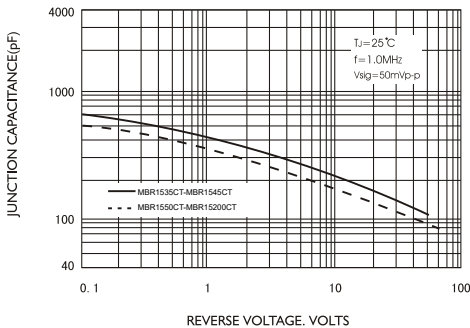
FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

TRANSIENT THERMAL IMPEDANCE, ℃/W

T, PULSE DURATION ,sec.

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