JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-220-3L Plastic-Encapsulate Diodes

MBR30200CT   SCHOTTKY BARRIER RECTIFIER

FEATURES

● Schottky Barrier Chip

● Guard Ring Die Construction for Transient Protection

● Low Power Loss,High Efficiency

● High Surge Capability

● High Current Capability and Low Forward Voltage Drop

● For Use in Low Voltage, High Frequency Inverters,Free Wheeling,
  and Polarity Protection Applications

TO-220-3L

1. ANODE

2. CATHODE

3. ANODE
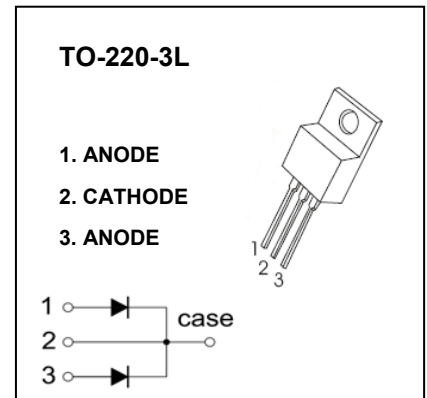
MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{RRM}	Peak repetitive reverse voltage	200	V
V_{RWM}	Working peak reverse voltage		
V_R	DC blocking voltage		
$V_{R(RMS)}$	RMS reverse voltage	140	V
I_O	Average rectified output current	30	A
I_{FSM}	Non-Repetitive peak forward surge current 8.3ms half sine wave	200	A
P_D	Power dissipation	2	W
$R_{\Theta JA}$	Thermal resistance from junction to ambient	50	℃/W
T_j	Junction temperature	125	℃
T_{stg}	Storage temperature	-55~+150	℃

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse voltage	$V_{(BR)}$	I_R=1mA	200			V
Reverse current	I_R	V_R=200V			100	μA
Forward voltage	V_{F1}	I_F=15A			1	V
Forward voltage	V_{F2}*	I_F=30A			1.1	V
Typical total capacitance	C_{tot}	V_R=4V,f=1MHz		800		pF

Typical Characteristics

Forward Characteristics

FORWARD CURRENT I_F (mA)

FORWARD VOLTAGE V_F (mV)

$T_a = 100℃$

$T_a = 25℃$
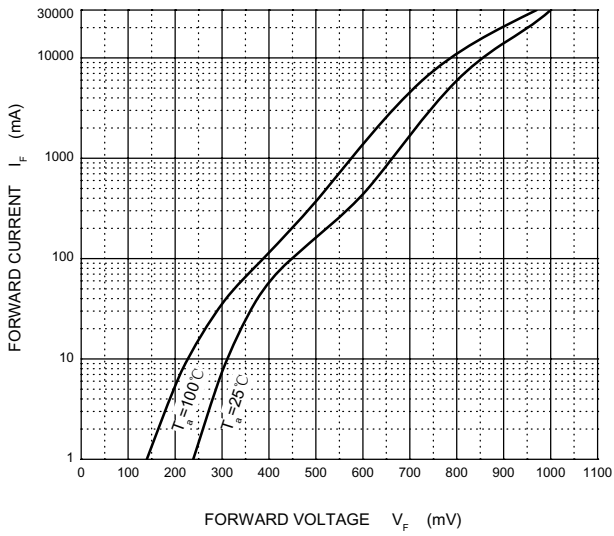
Reverse Characteristics

REVERSE CURRENT I_R (uA)

REVERSE VOLTAGE V_R (V)

$T_a = 100℃$

$T_a = 25℃$
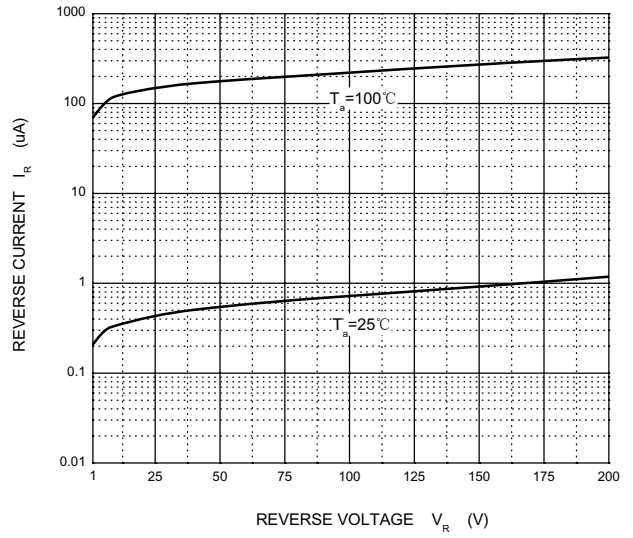
Capacitance Characteristics

CAPACITANCE BETWEEN TERMINALS C_T (pF)

REVERSE VOLTAGE V_R (V)

$T_a = 25℃$
$f = 1MHz$

Power Derating Curve

POWER DISSIPATION P_D (W)

AMBIENT TEMPERATURE T_a (℃)
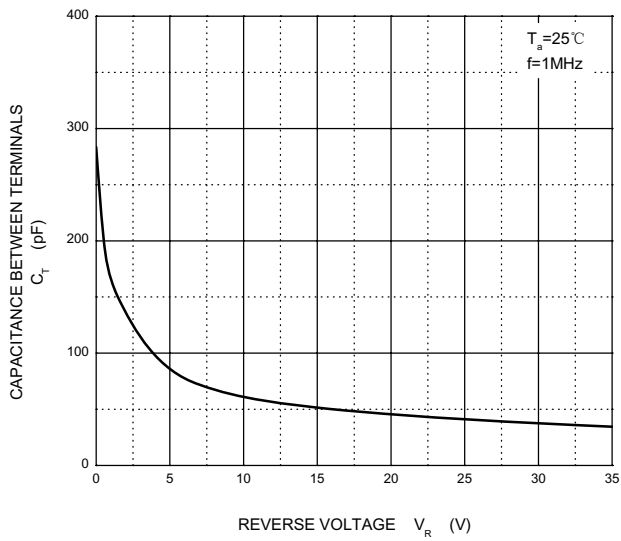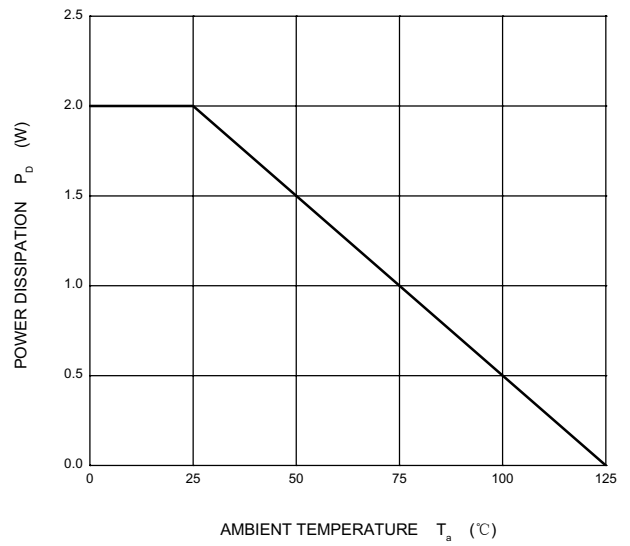
TO-220-3L Package Outline Dimensions
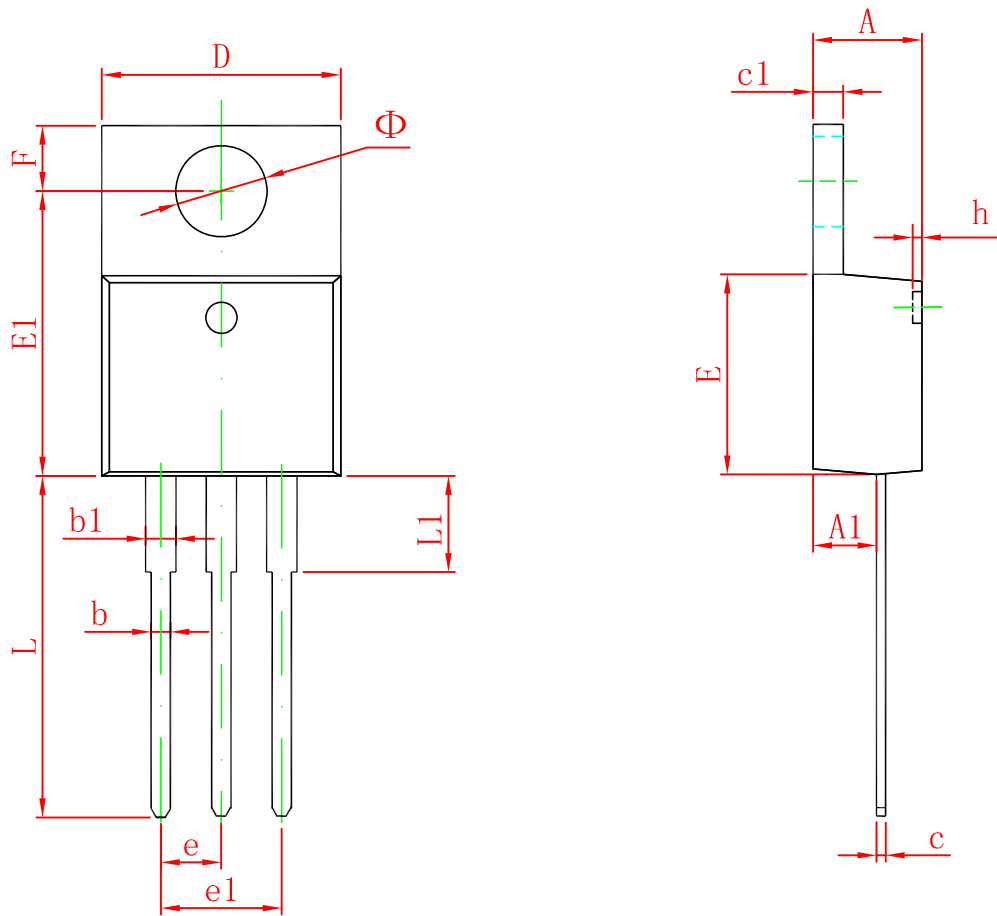
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.470	4.670	0.176	0.184
A1	2.520	2.820	0.099	0.111
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.310	0.530	0.012	0.021
c1	1.170	1.370	0.046	0.054
D	10.010	10.310	0.394	0.406
E	8.500	8.900	0.335	0.350
E1	12.060	12.460	0.475	0.491
e	2.540 TYP		0.100 TYP	
e1	4.980	5.180	0.196	0.204
F	2.590	2.890	0.102	0.114
h	0.000	0.300	0.000	0.012
L	13.400	13.800	0.528	0.543
L1	3.560	3.960	0.140	0.156
Φ	3.735	3.935	0.147	0.155