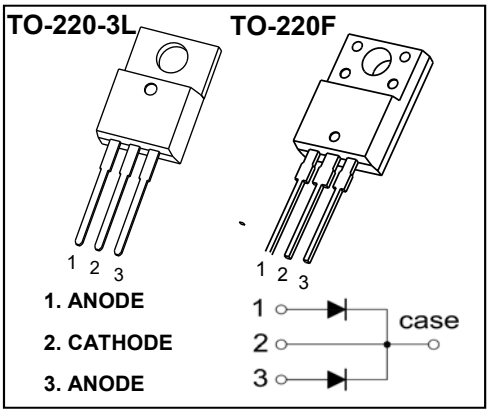
JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD.

TO-220-3L/TO-220F Plastic-Encapsulate Diodes

MUR1640CT、MURF1640CT SUPER FAST RECOVER RECTIFIER



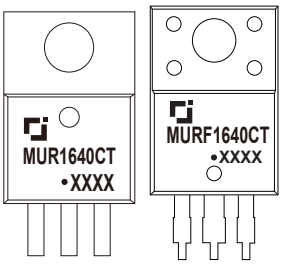
MAIN CHARACTERISTICS

I_O	16A
V_{RRM}	400 V
T_j	150 ℃
$V_{F(typ)}$	1.1V （@Tj=125℃）

FEATURES

- Ultrafast 35ns Recovery Times
- High Voltage Capability to 400V
- Low Reverse Leakage Current

MARKING



MUR(F)1640CT = Device code
Solid dot = Green molding compound device
if none, the normal device
XXXX = Code

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

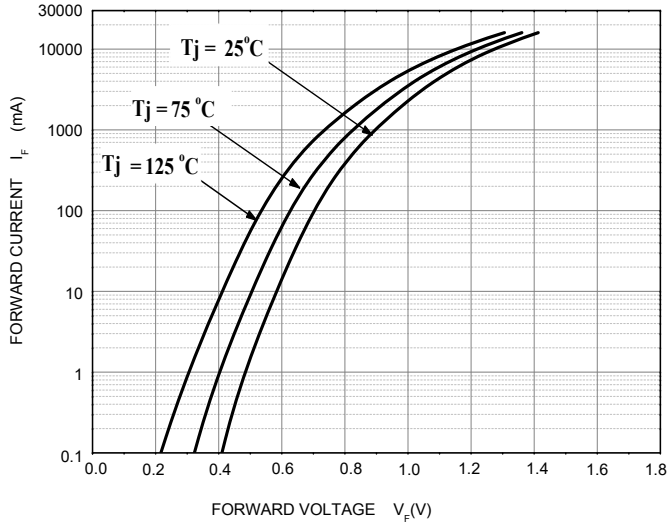
Symbol	Parameter	MUR		Unit
		1640CT	F1640CT	
V_{RRM}	Peak repetitive reverse voltage	400		V
V_{RWM}	Working peak reverse voltage			
V_R	DC blocking voltage			
$V_{R(RMS)}$	RMS reverse voltage	280		V
I_O	Average rectified output current@ Per leg	8		A
	Average rectified output current@ Total device	16		A
I_{FSM}	Non-Repetitive peak forward surge current 8.3ms half sine wave	120		A
P_D	Power dissipation	2.0		W
$R_{\Theta Jc}$	Thermal resistance from junction to case ,Tc=25℃	2.23		℃/W
$R_{\Theta JA}$	Thermal resistance from junction to ambient	62.5		℃/W
T_j	Operating Junction Temperature Range	-55 ~ +150		℃
T_{stg}	Storage Temperature Range	-55 ~ +150		℃

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

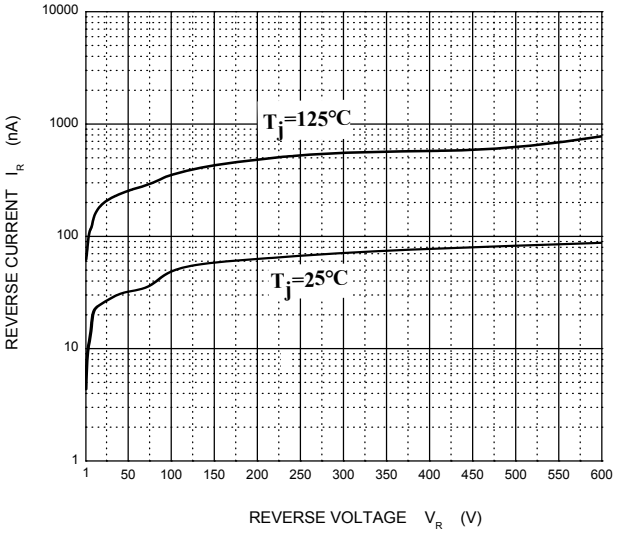
Parameter	Symbol	Test conditions		Min	Typ	Max	Unit
Reverse voltage	$V_{(BR)}$	I_R=100uA		400			V
Reverse current	I_R	V_R=400V	Tj =25℃		0.1	1	uA
			Tj =125℃		1.0		uA
Forward voltage	V_F	I_F=8.0A	Tj =25℃		1.22	1.4	V
			Tj =125℃		1.10		V
Typical total capacitance	C_{tot}	V_R=4.0V,f=1MHz			28		pF
Reverse recovery time	t_{rr}	I_F= 0.5A, I_R=1A,I_{rr}=0.25A				35	ns

Typical Characteristics

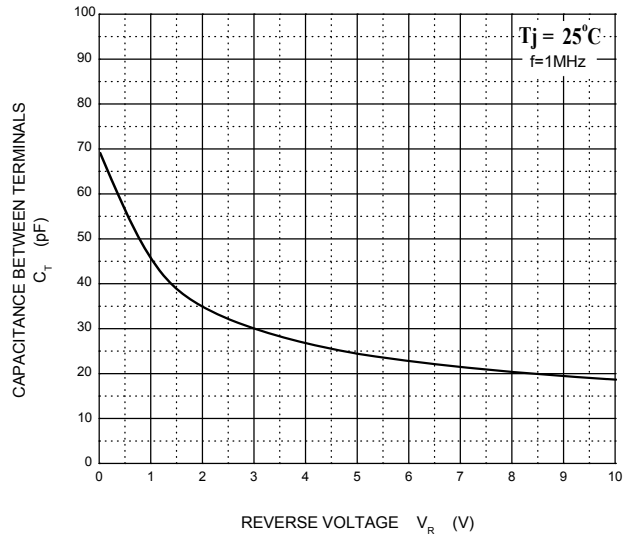
Forward Characteristics



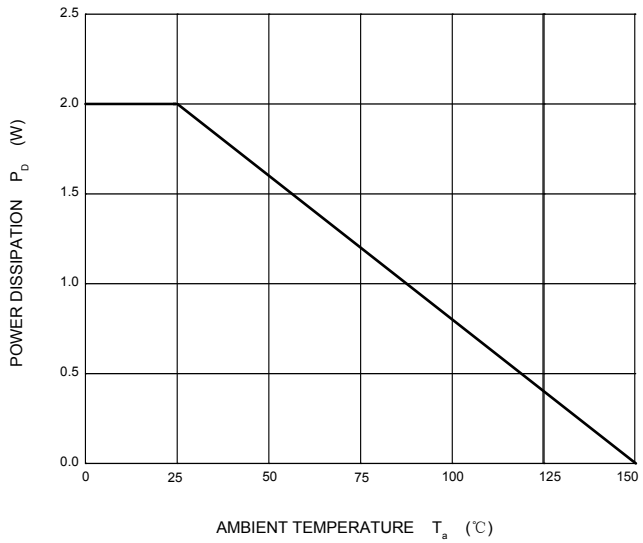
Reverse Characteristics



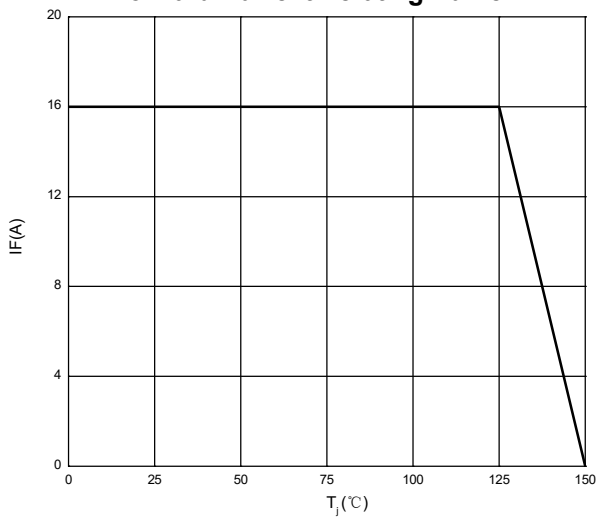
Capacitance Characteristics



Power Derating Curve

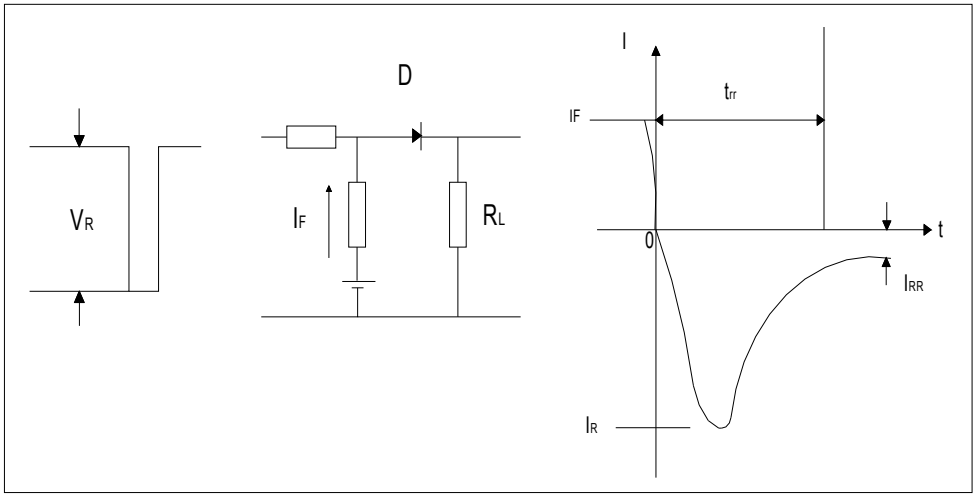


Forward Current Derating Curve

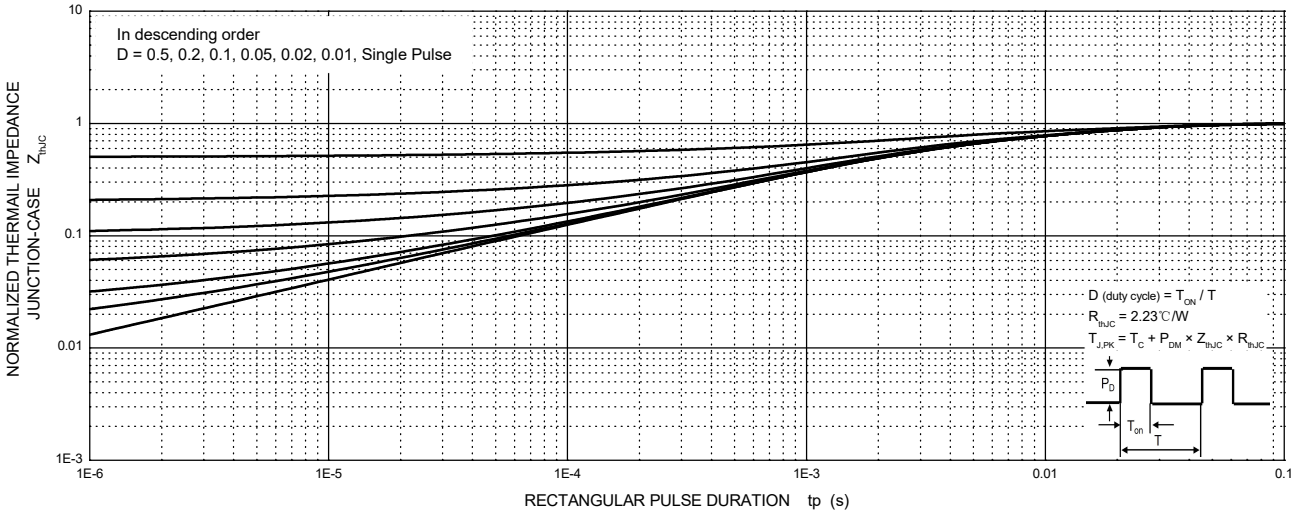


Typical Characteristics

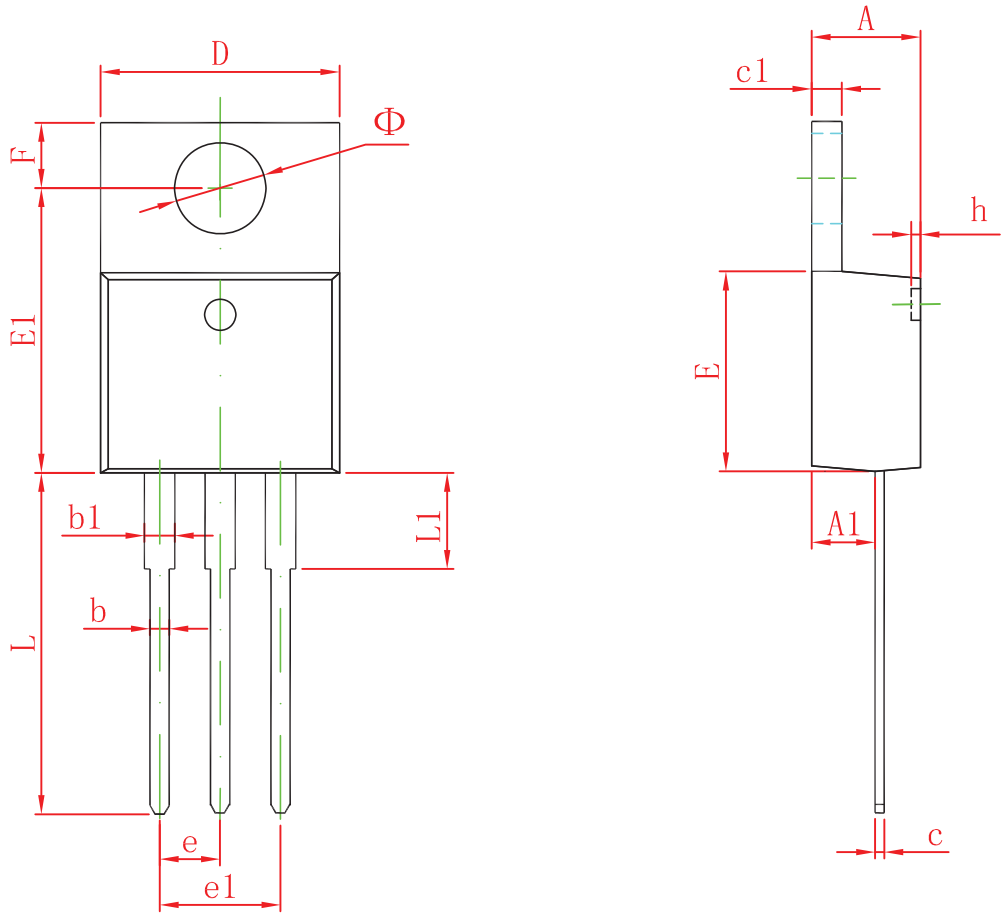
Diagram of circuit and Testing wave form of reverse recovery time



MURF1640CT Transient Thermal Impedance, Junction-Case

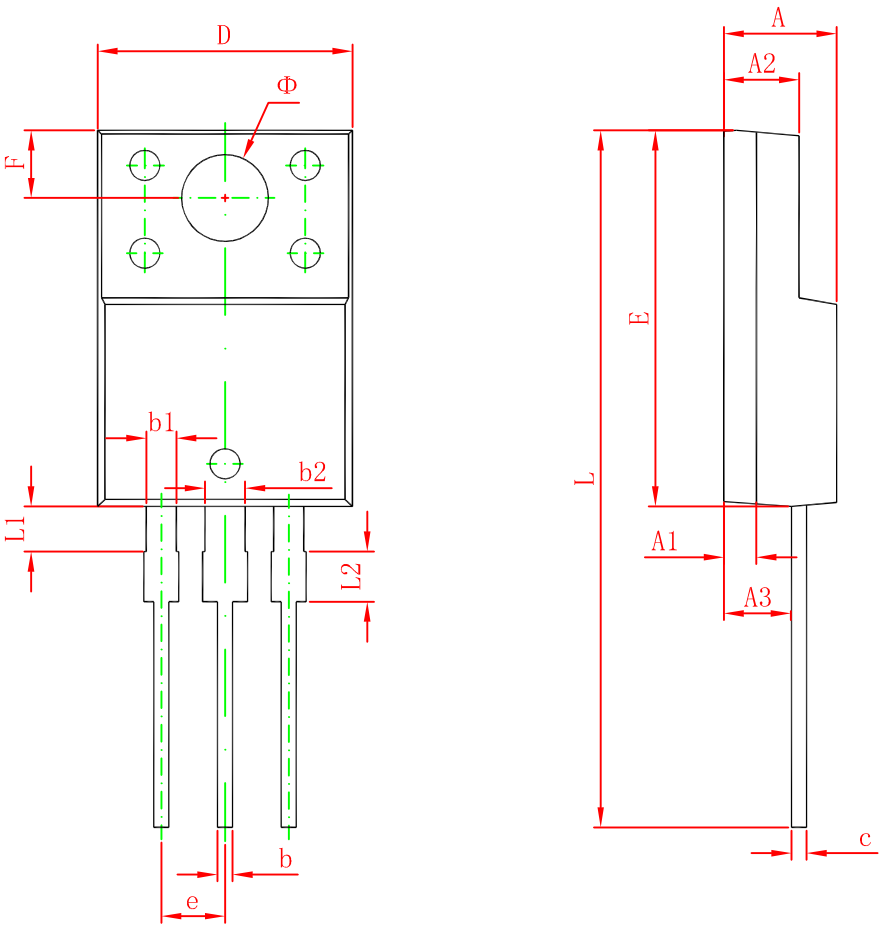


TO-220-3L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.450	4.750	0.175	0.187
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	0.300	0.500	0.012	0.020
c1	1.170	1.370	0.046	0.054
D	9.830	10.330	0.387	0.407
E	8.500	8.900	0.335	0.350
E1	12.050	12.650	0.474	0.498
e	2.540 TYP		0.100 TYP	
e1	4.900	5.200	0.192	0.205
F	2.540	2.940	0.100	0.116
h	0.100 TYP		0.004 TYP	
L	13.300	13.800	0.523	0.543
L1	3.540	3.940	0.139	0.155
Φ	3.735	3.935	0.147	0.155

TO-220F Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.300	4.700	0.169	0.185
A1	1.300 REF.		0.051 REF.	
A2	2.800	3.200	0.110	0.126
A3	2.500	2.900	0.098	0.114
b	0.500	0.750	0.020	0.030
b1	1.100	1.350	0.043	0.053
b2	1.500	1.750	0.059	0.069
c	0.500	0.750	0.020	0.030
D	9.960	10.360	0.392	0.408
E	14.800	15.200	0.583	0.598
e	2.540 TYP.		0.100 TYP.	
F	2.700 REF.		0.106 REF.	
Φ	3.300	3.700	0.130	0.146
L	28.000	28.400	1.102	1.118
L1	1.700	1.900	0.067	0.075
L2	0.900	1.100	0.035	0.043