JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD.

TO-263-2L Plastic-Encapsulate Diode

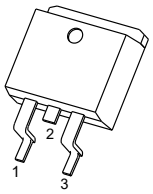
MURB10H60CTB HYPERFAST RECTIFIER,FRED

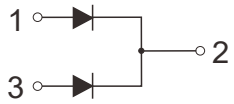
MAIN CHARACTERISTICS

I_O	10(5×2)A
V_{RRM}	600V
T_{rr}	22ns
T_j	175℃
$V_{F(typ)}$	1.0V(@T_j=150℃)

TO-263-2L

1. ANODE
2. CATHODE
3. ANODE





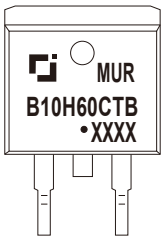
FEATURES

- Ultrafast Recovery Times and Low Recovery Loss
- Low Forward Voltage
- Low Reverse Leakage Current

APPLICATIONS

Specifically designed to improve efficiency of PFC and output rectification stages of EV / HEV battery charging stations, booster stage of solar inverters and UPS applications, these devices are perfectly matched to operate with MOSFETs or high speed IGBTs.

MARKING



MURB10H60CTB = Device code
Solid dot = Green molding compound device
if none, the normal device
XXXX = Code

MAXIMUM RATINGS (T_C=25℃unless otherwise noted)

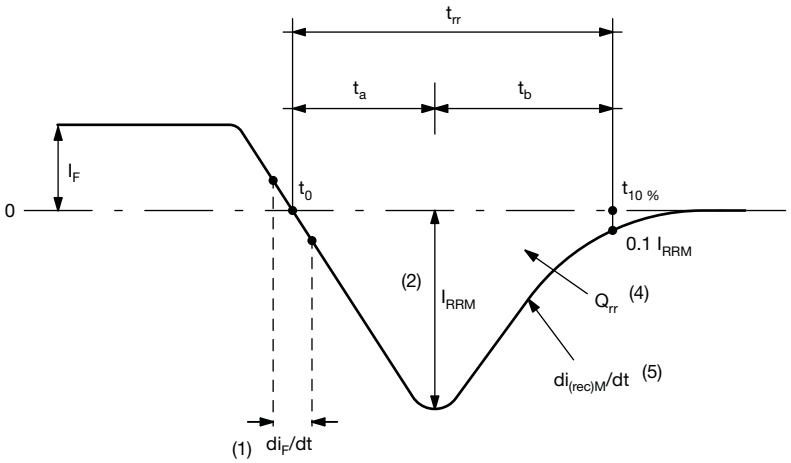
Symbol	Parameter	MURB10H60CTB	Unit
V_{RRM}	Peak Repetitive Reverse Voltage	600	V
V_R	DC Blocking Voltage		
$I_{F(AV)}$	Average rectified output current@ Per leg(T_C=153℃)	5	A
	Average rectified output current@ Total device(T_C=153℃)	10	
$I_{F(RMS)}$	RMS Forward Curren(T_C=153℃)	7	A
I_{FSM}	Non-Repetitive Surge Forward Current (8.3ms)	77	A
P_D	Power dissipation	83	W
$R_{\Theta JC}$	Thermal Resistance From Junction to Case	1.8	℃/W
T_j	Operating Junction Temperature Range	-55 ~ +175	℃
T_{stg}	Storage Temperature Range	-55 ~ +175	℃

ELECTRICAL CHARACTERISTICS (T_C=25℃ unless otherwise specified)

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
$V_{(BR)}$	Reverse Voltage	IR=100μA		600			V
I_R	Reverse Current	VR=600V	T_j=25℃			10	μA
			T_j=150℃			500	μA
V_F	Forward Voltage	IF=5A	T_j=25℃		1.1	1.6	V
			T_j=150℃		1.0		V
C_{tot}	Total Capacitance	VR=200V, f=1MHz			5.3		pF
trr	Reverse Recovery time	IF=0.5A, IR=1A,Irr=0.25A			34		ns
		IF=1A,VR=30V, di_F/dt =200A/us			22		ns

ELECTRICAL CHARACTERISTICS (T_C=25℃ unless otherwise specified)

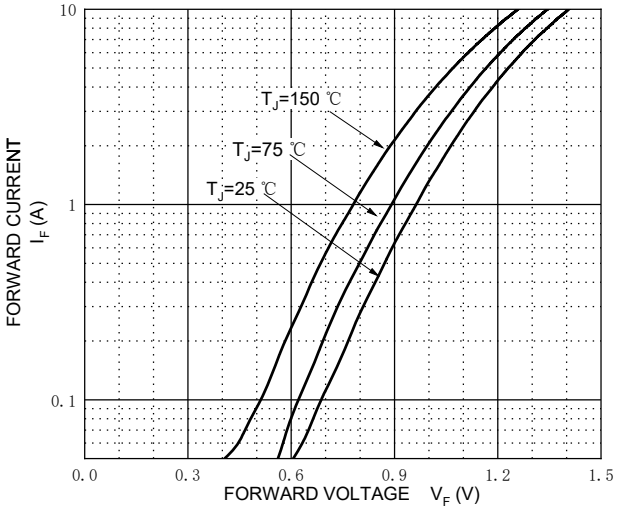
Symbol	Parameter	Test Comditions	Min.	Typ.	Max.	Unit
trr	Reverse Recovery Time	IF=10A, VR=400V, di_F/dt=200A/μs		85		ns
I_{RRM}	Max. Reverse Recovery Current			4.7		A
Qrr	Reverse Recovery Charge			250		nC
trr	Reverse Recovery Time	IF=10A, VR=400V, di_F/dt=200A/μs, T_j=125℃		113		ns
I_{RRM}	Max. Reverse Recovery Current			7.0		A
Qrr	Reverse Recovery Charge			500		nC
trr	Reverse Recovery Time	IF=10A, VR=400V, di_F/dt=600A/μs, T_j=125℃		70		ns
I_{RRM}	Max. Reverse Recovery Current			16		A
Qrr	Reverse Recovery			665		nC



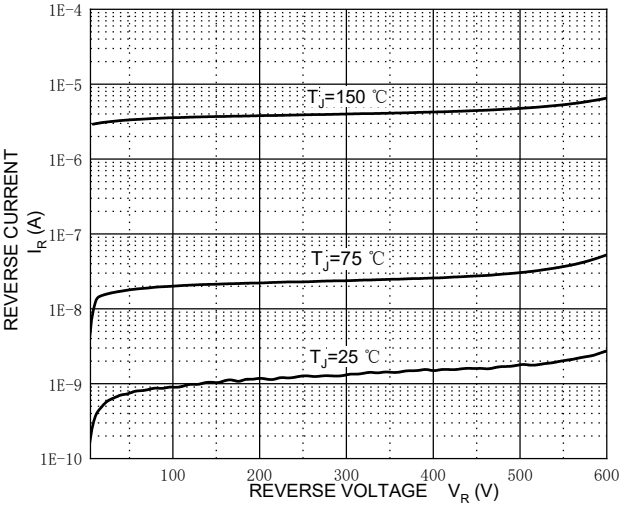
Reverse Recovery Waveform and Definitions

Typical Characteristics

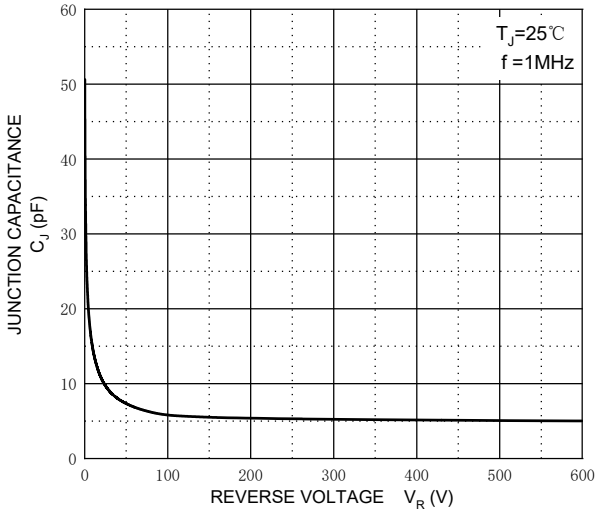
Forward Characteristics



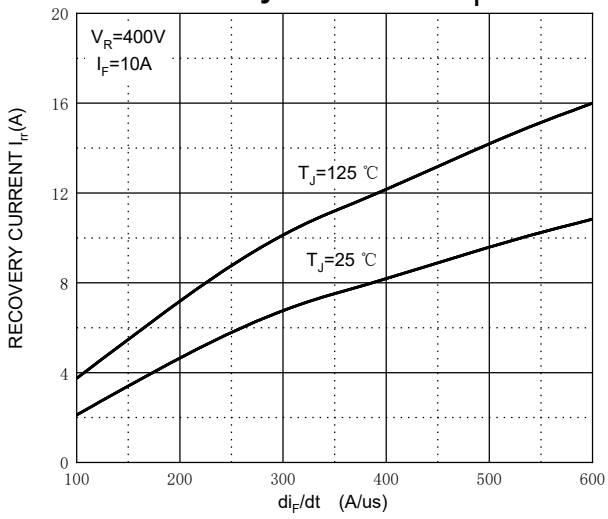
Reverse Characteristics



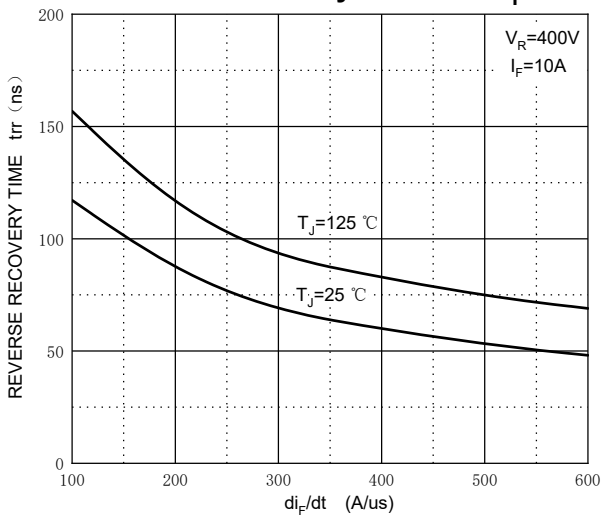
Capacitance Characteristics Per Diode



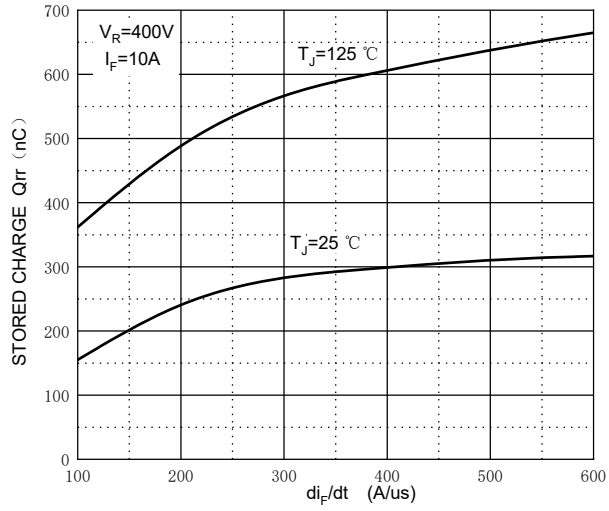
Recovery Current vs. di_F/dt



Reverse Recovery Time vs. di_F/dt

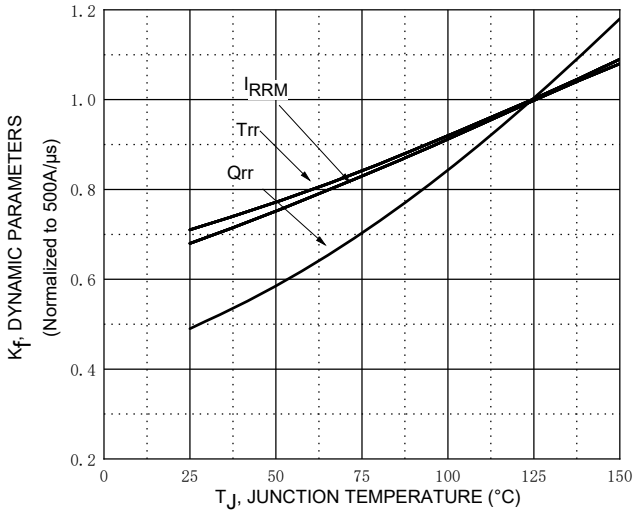


Stored Charge vs. di_F/dt

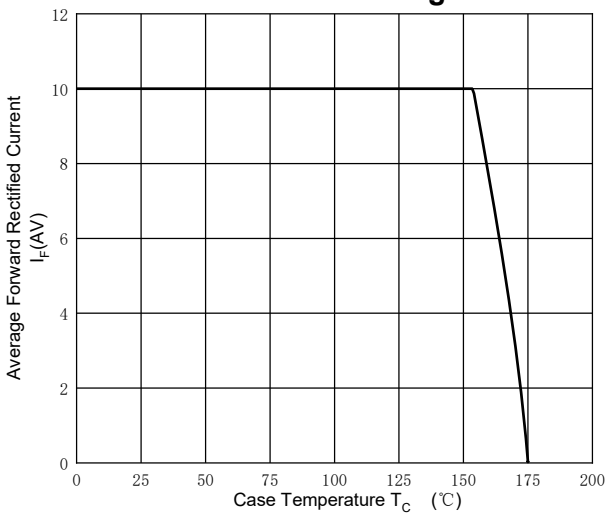


Typical Characteristics

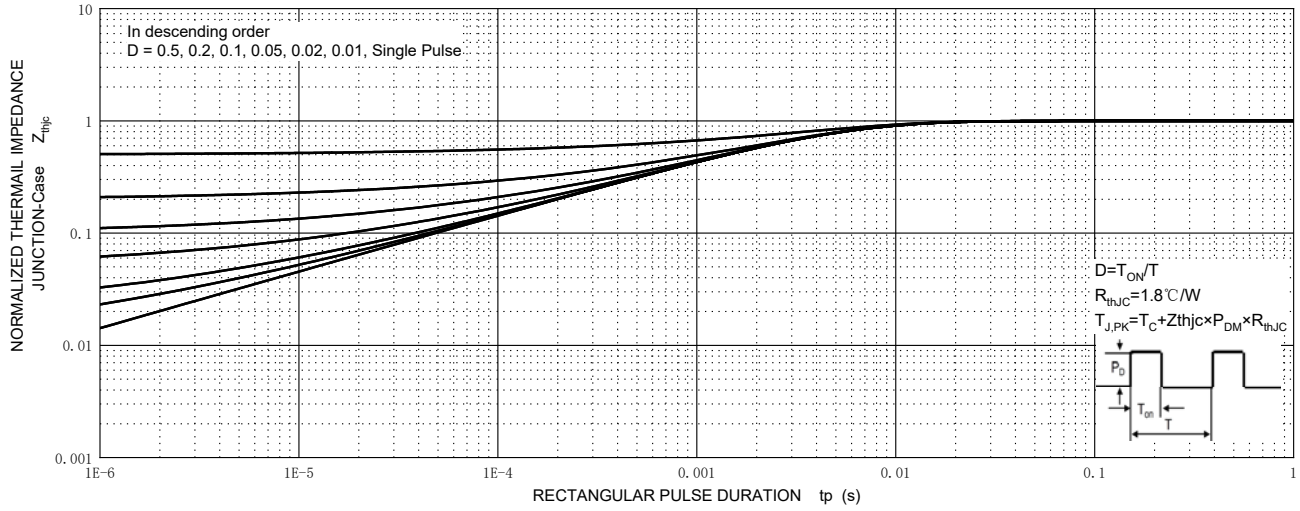
Dynamic Parameters vs. Junction Temperature



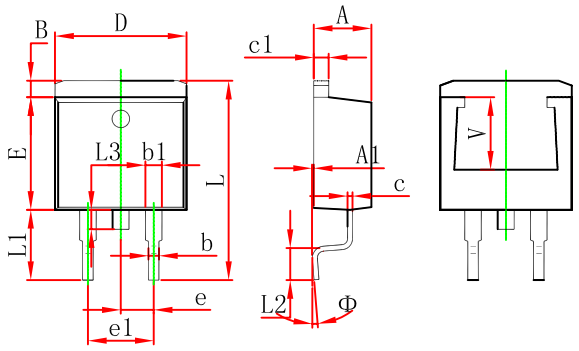
Current Derating



MURB10H60CTB Transient Thermal Impedance, Junction-Case

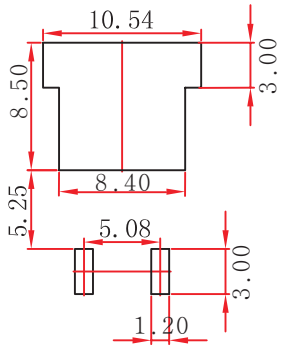


TO-263-2L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.470	4.670	0.176	0.184
A1	0.000	0.150	0.000	0.006
B	1.120	1.420	0.044	0.056
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
e	2.540 TYP.		0.100 TYP.	
e1	4.980	5.180	0.196	0.204
L	14.940	15.500	0.588	0.610
L1	4.950	5.450	0.195	0.215
L2	2.340	2.740	0.092	0.108
L3	1.300	1.700	0.051	0.067
Φ	0°	8°	0°	8°
V	5.600 REF.		0.220REF.	

TO-263-2L Suggested Pad Layout



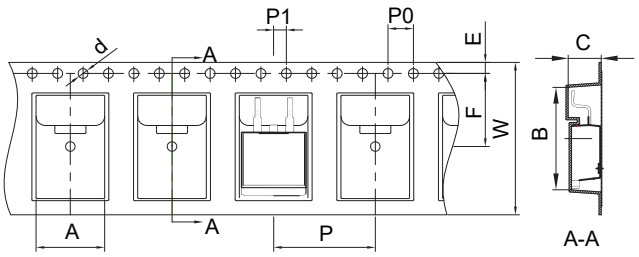
Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.05mm.
3.The pad layout is for reference purposes only.

NOTICE

JSCJ reserves the right to make modifications,enhancements,improvements,corrections or other changes without further notice to any product herein. JSCJ does not assume any liability arising out of the application or use of any product described herein.

TO-263-2L Tape and Reel

TO-263-2L Embossed Carrier Tabe

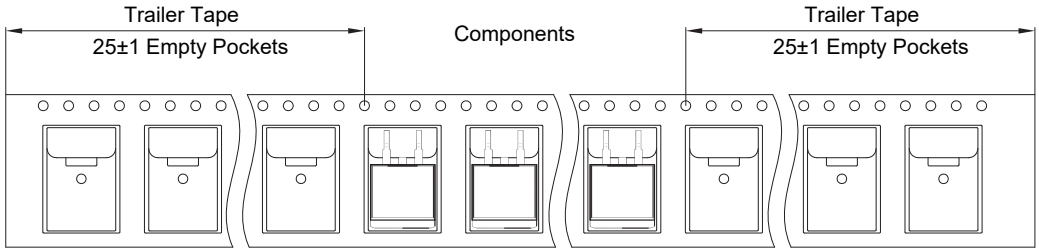


Packaging Description:

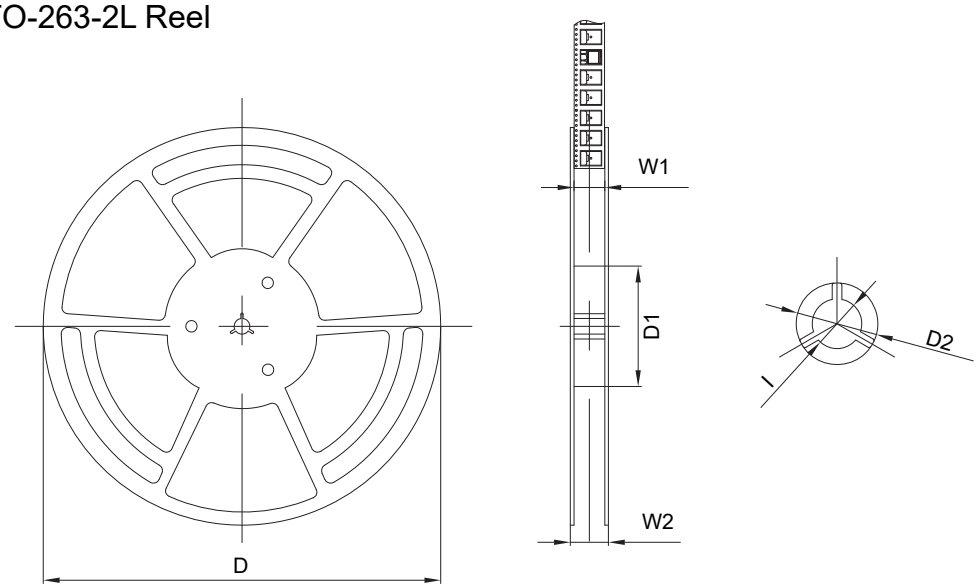
TO-263-2L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Hear Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 800 units per 13″ or 33.0 cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
TO-263	10.80	16.13	5.21	Φ1.55	1.75	11.50	4.00	16.00	2.00	24.00

TO-263-2L Tape Leader and Trailer



TO-263-2L Reel



Dimensions are in millimeter						
Reel	D	D1	D2	W1	W2	I
13" Dia	330.00	100.00	Φ21.00	24.40	30.40	Φ13.00

Reel	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)
800 pcs	13 inch	1600 pcs	360×360×65	8000 pcs	378×358×382