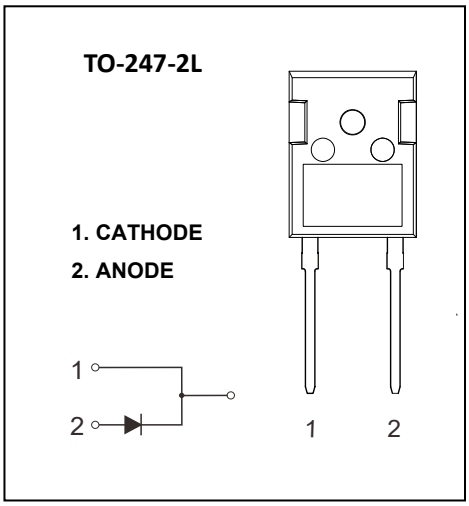
JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD.

TO-247-2L Plastic-Encapsulate Diode

MURW30H60 HYPERFAST RECTIFIER,FRED



MAIN CHARACTERISTICS

I_O	30A
V_{RRM}	600V
T_{rr}	21ns
T_j	175℃
$V_{F(typ)}$	1.55V(@T_j=150℃)

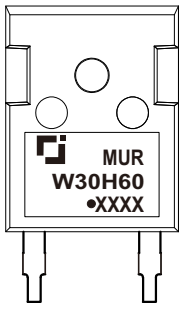
FEATURES

- 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



MURW30H60 = 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	MURW30H60	Unit
V_{RRM}	Peak Repetitive Reverse Voltage	600	V
V_R	DC Blocking Voltage		
$I_{F(AV)}$	Average Forward Current(T_C=131℃)	30	A
$I_{F(RMS)}$	RMS Forward Current(T_C=131℃)	42	A
I_{FSM}	Non-Repetitive Surge Forward Current (8.3ms)	250	A
P_D	Power dissipation	150	W
$R_{\Theta JC}$	Thermal Resistance From Junction to Case	1.0	℃/W
T_j	Operating Junction Temperature Range	-55 ~ +175	℃
T_{stg}	Storage Temperature Range	-55 ~ +175	℃

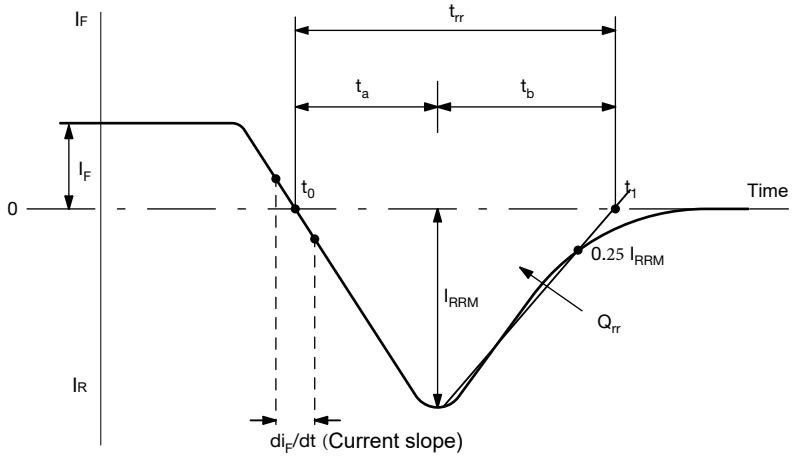
Typical Characteristics

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℃			1	mA
V_F	Forward Voltage	IF=30A	T_j=25℃		2.6	3	V
			T_j=150℃		1.55		V
C_{tot}	Total Capacitance	VR=200V, f=1MHz			100		pF
trr	Reverse Recovery time	IF=0.5A, IR=1A,Irr=0.25A			32		ns
		IF=1A,VR=30V, di_F/dt =200A/us			21		ns

ELECTRICAL CHARACTERISTICS (T_C=25℃ unless otherwise specified)

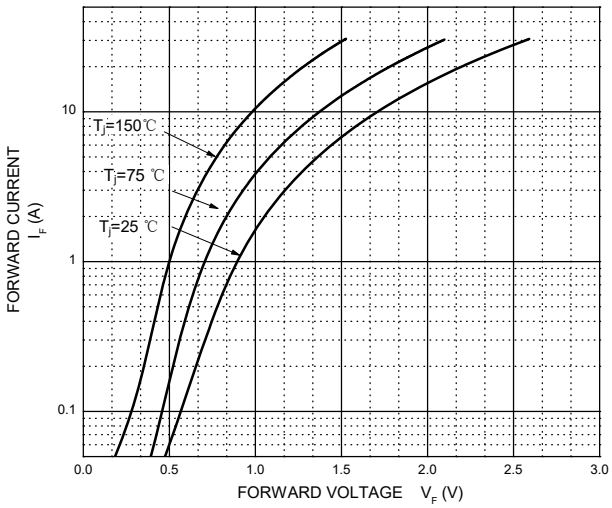
Symbol	Parameter	Test Comditions	Min.	Typ.	Max.	Unit
trr	Reverse Recovery Time	IF=30A, VR=400V, di_F/dt=200A/μs		29		ns
I_{RRM}	Max. Reverse Recovery Current			1.9		A
Qrr	Reverse Recovery Charge			32		nC
trr	Reverse Recovery Time	IF=30A, VR=400V, di_F/dt=200A/μs, T_j=125℃		60		ns
I_{RRM}	Max. Reverse Recovery Current			6		A
Qrr	Reverse Recovery Charge			201		nC
trr	Reverse Recovery Time	IF=30A, VR=400V, di_F/dt=600A/μs, T_j=125℃		39		ns
I_{RRM}	Max. Reverse Recovery Current			14		A
Qrr	Reverse Recovery Charge			359		nC



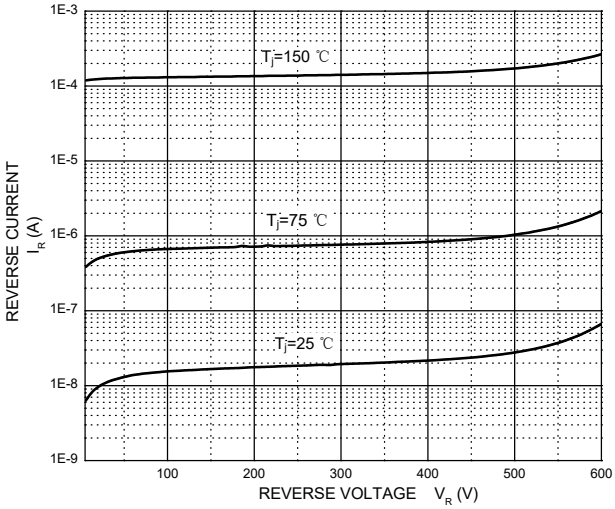
Reverse Recovery Waveform and Definitions

Typical Characteristics

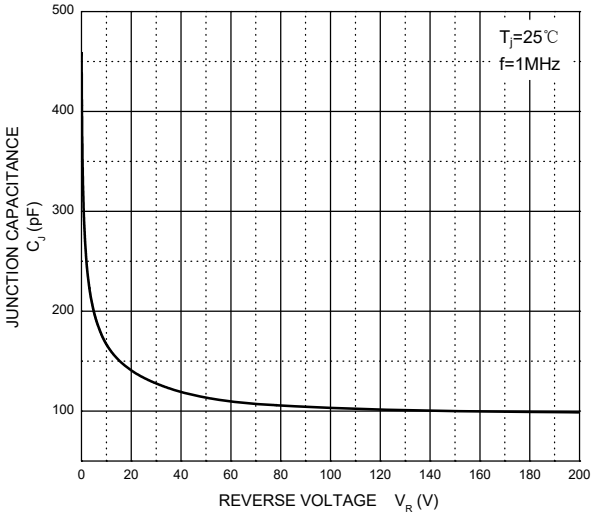
Forward Characteristics



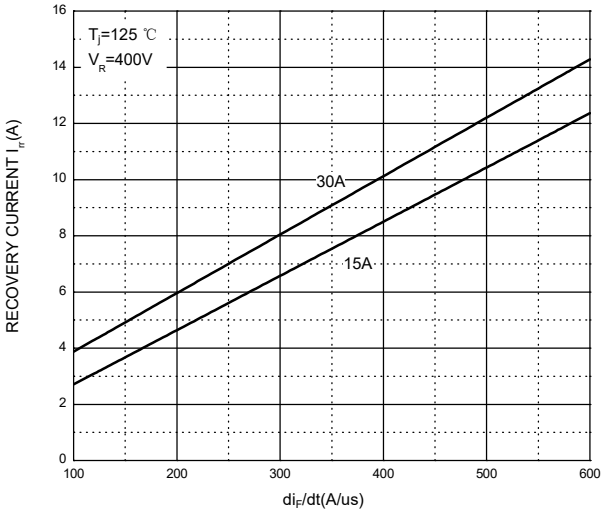
Reverse Characteristics



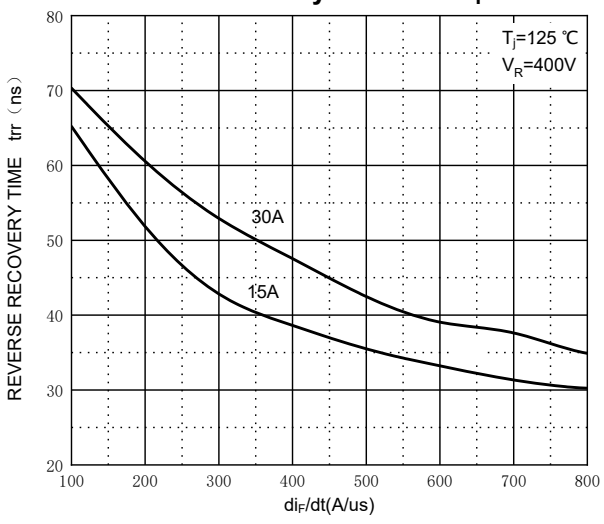
Capacitance Characteristics



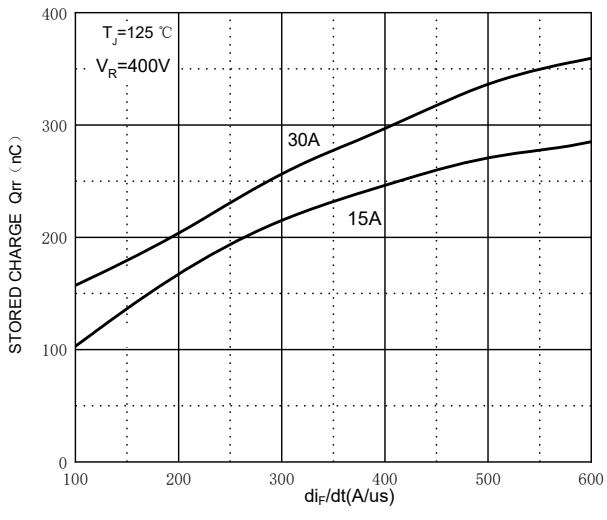
Recovery Current vs. di_F/dt



Reverse Recovery Time vs. di_F/dt

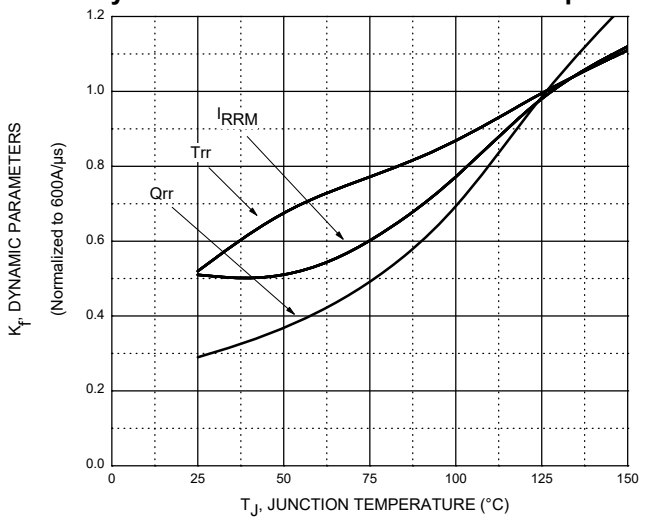


Stored Charge vs. di_F/dt

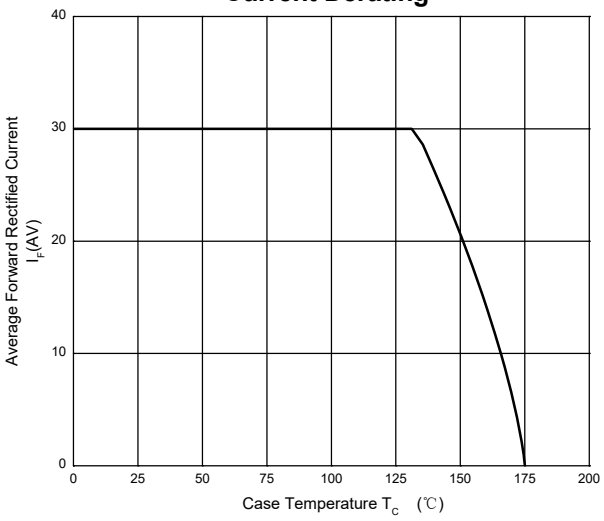


Typical Characteristics

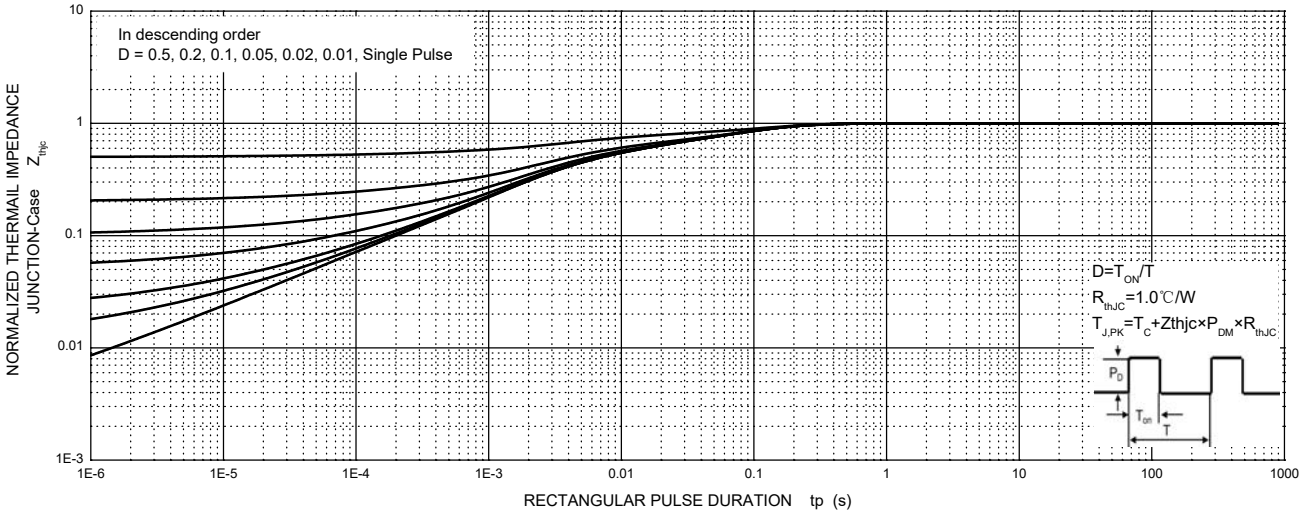
Dynamic Parameters vs. Junction Temperature



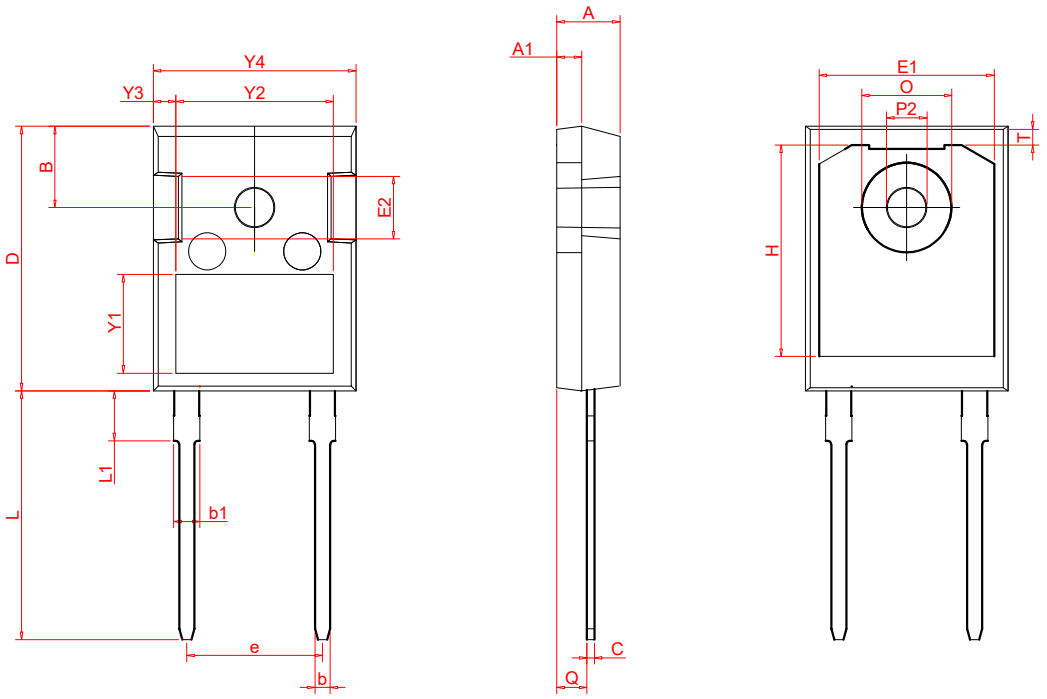
Current Derating



MURW30H60 Transient Thermal Impedance, Junction-Case



TO-247-2L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.70	5.30	0.185	0.209
A1	1.70	2.30	0.067	0.091
C	0.45	0.75	0.018	0.030
Q	2.20	2.60	0.087	0.102
O	7.10	7.40	0.280	0.291
P2	3.45	3.75	0.136	0.148
L	19.00	21.00	0.748	0.827
L1	4.20	4.50	0.165	0.177
b	1.00	1.40	0.039	0.055
b1	1.80	2.25	0.071	0.089
e	10.65	10.95	0.419	0.431
D	20.95	21.35	0.825	0.841
Y1	7.60	8.10	0.299	0.319
Y2	11.00	13.00	0.433	0.512
Y3	1.75	2.25	0.069	0.089
Y4	16.00	16.40	0.630	0.646
E2	4.60	4.90	0.181	0.193
T	1.35REF		0.053REF	
H	16.25REF		0.640REF	
E1	14.00REF		0.551REF	
B	6.55REF		0.258REF	