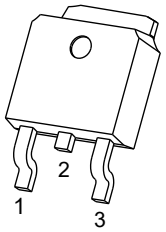
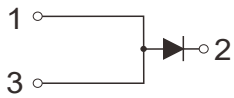
TO-252-2L Plastic-Encapsulate Diode

MURD10H30A HYPERFAST RECTIFIER,FRED

TO-252-2L



1. ANODE
2. CATHODE
3. ANODE



MAIN CHARACTERISTICS

I_O	10A
V_{RRM}	300V
T_{rr}	12ns
T_j	175℃
$V_{F(typ)}$	1.1V(@T_j=150℃)

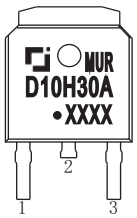
FEATURES

- 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



MURD10H30A= 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	MURD10H30A	Unit
V_{RRM}	Peak Repetitive Reverse Voltage	300	V
V_R	DC Blocking Voltage		
$I_{F(AV)}$	Average Forward Current(T_C=164℃)	10	A
$I_{F(RMS)}$	RMS Forward Current(T_C=164℃)	14	A
I_{FSM}	Non-Repetitive Surge Forward Current (8.3ms)	120	A
P_D	Power dissipation	63	W
$R_{\Theta JC}$	Thermal Resistance From Junction to Case	2.4	℃/W
T_j	Operating Junction Temperature Range	-55 ~ +175	℃
T_{stg}	Storage Temperature Range	-55 ~ +175	℃

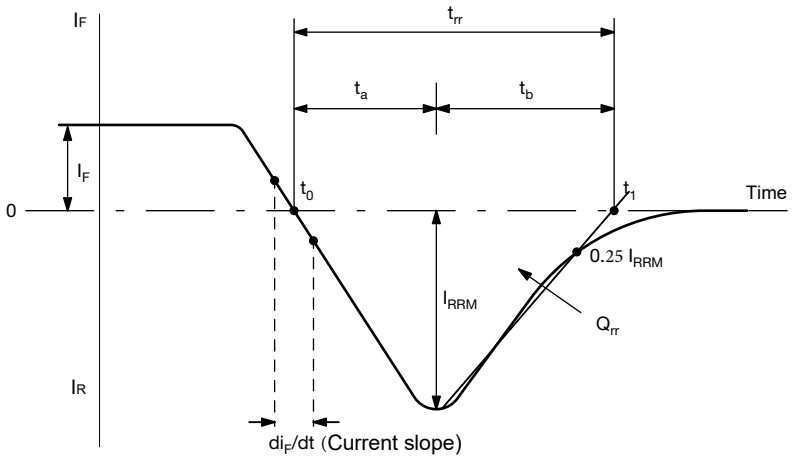
Typical Characteristics

ELECTRICAL CHARACTERISTICS (T_C=25℃ unless otherwise specified)

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
$V_{(BR)}$	Reverse Voltage	IR=100μA		300			V
I_R	Reverse Current	VR=300V	T_j=25℃			10	μA
			T_j=150℃			500	μA
V_F	Forward Voltage	IF=10A	T_j=25℃		1.4	1.8	V
			T_j=150℃		1.1		V
C_{tot}	Total Capacitance	VR=200V, f=1MHz			20		pF
trr	Reverse Recovery time	IF=0.5A, IR=1A,Irr=0.25A			20		ns
		IF=1A,VR=30V, di_F/dt =200A/us			12		ns

ELECTRICAL CHARACTERISTICS (T_C=25℃ unless otherwise specified)

Symbol	Parameter	Test Comditions	Min.	Typ.	Max.	Unit
trr	Reverse Recovery Time	IF=10A, VR=100V, di_F/dt=200A/μs		12		ns
I_{RRM}	Max. Reverse Recovery Current			1.75		A
Qrr	Reverse Recovery Charge			11		nC
trr	Reverse Recovery Time	IF=10A, VR=100V, di_F/dt=200A/μs, T_j=125℃		26		ns
I_{RRM}	Max. Reverse Recovery Current			3.8		A
Qrr	Reverse Recovery Charge			53.5		nC
trr	Reverse Recovery Time	IF=10A, VR=100V, di_F/dt=500A/μs, T_j=125℃		19		ns
I_{RRM}	Max. Reverse Recovery Current			8		A
Qrr	Reverse Recovery Charge			82		nC

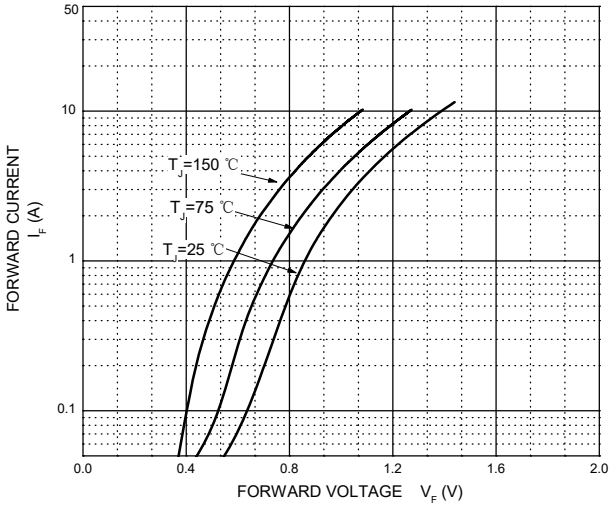


Reverse Recovery Waveform and Definitions

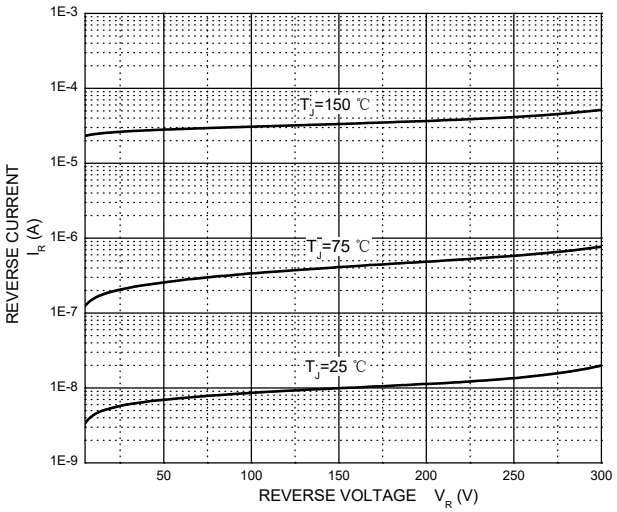
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Typical Characteristics

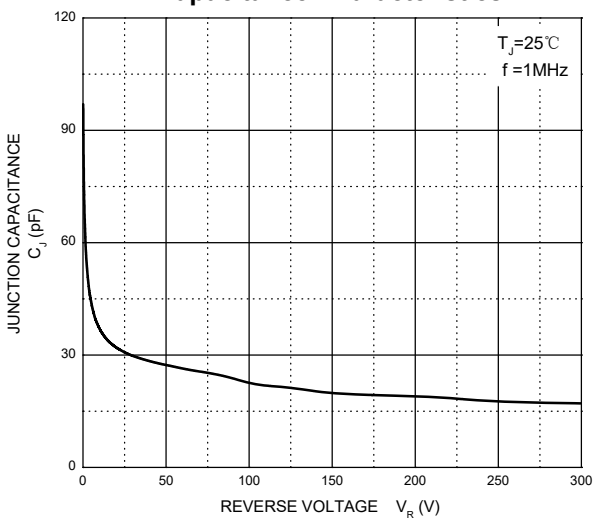
Forward Characteristics



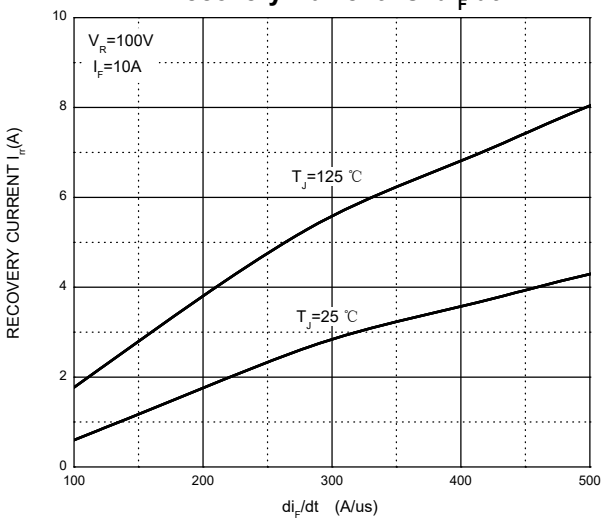
Reverse Characteristics



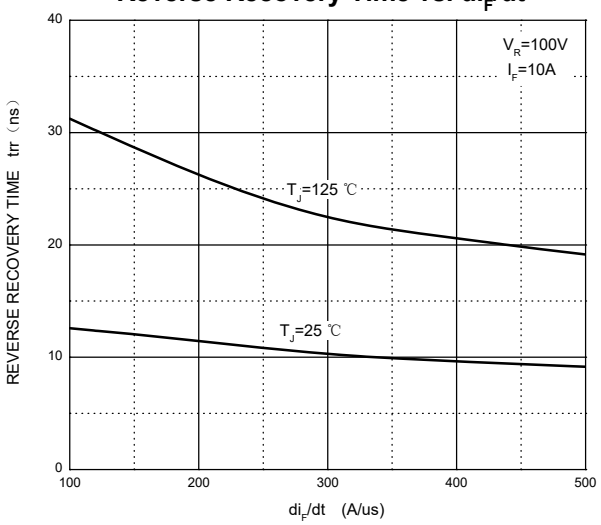
Capacitance Characteristics



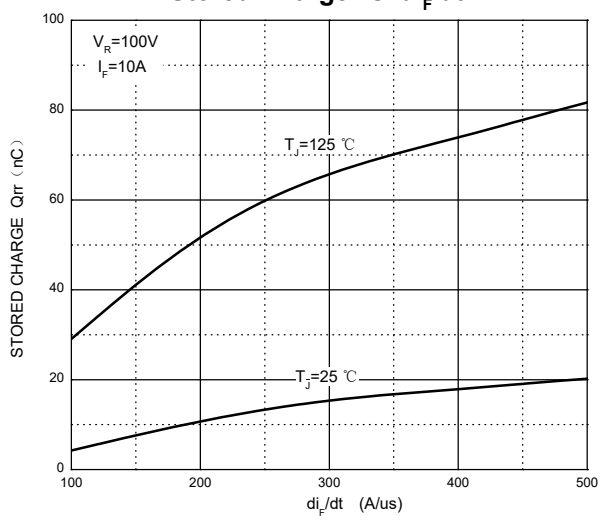
Recovery Current vs. di_F/dt



Reverse Recovery Time vs. di_F/dt

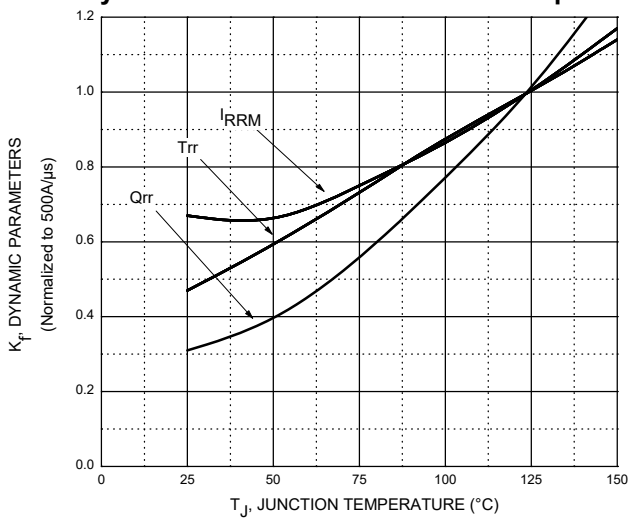


Stored Charge vs. di_F/dt

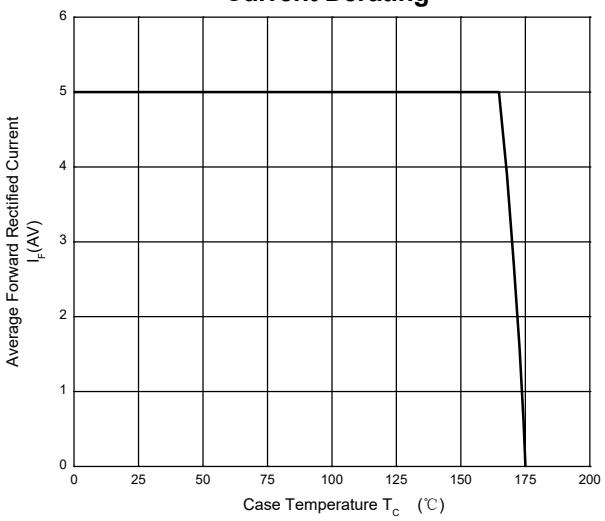


Typical Characteristics

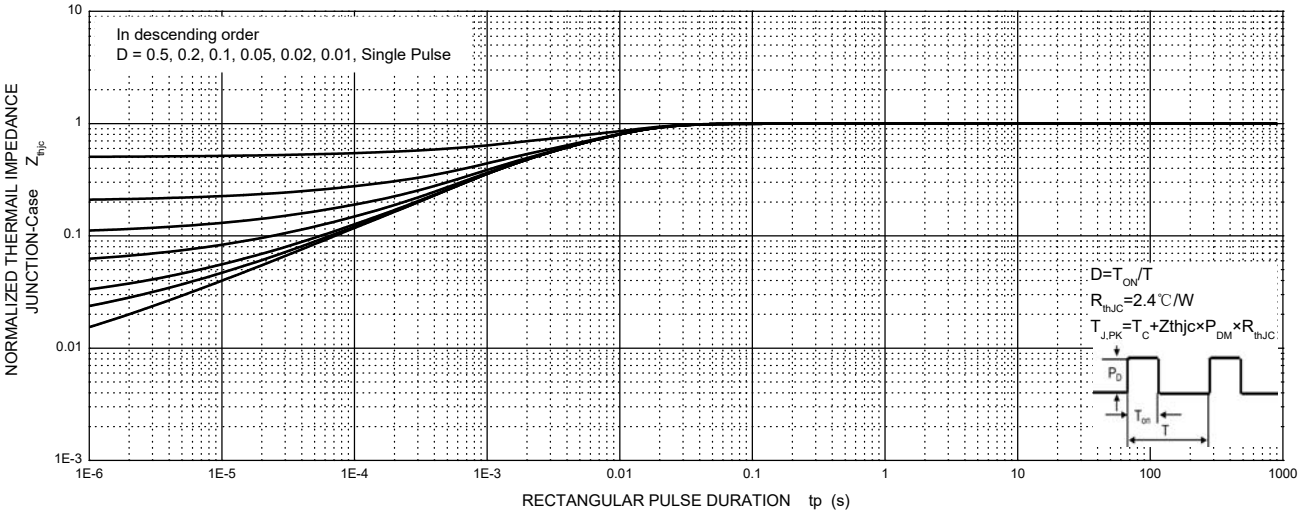
Dynamic Parameters vs. Junction Temperature



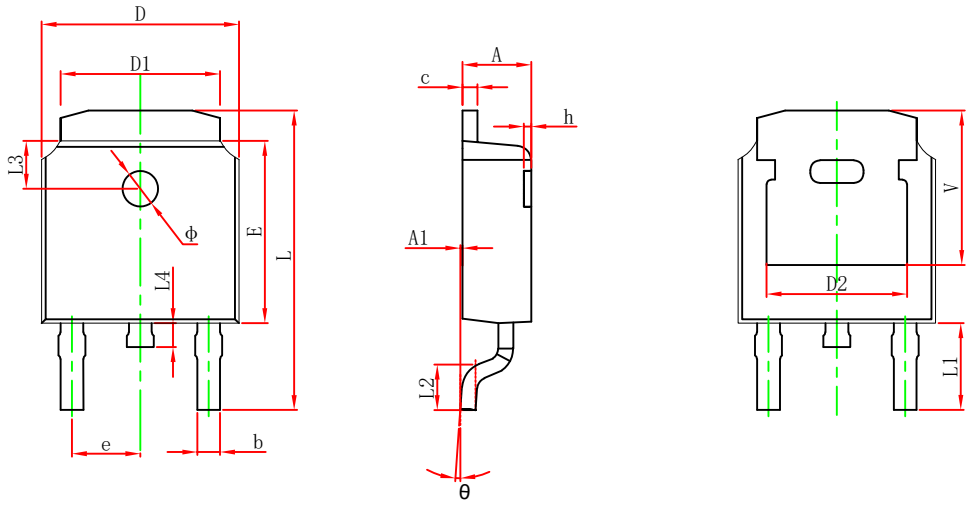
Current Derating



MURD10H30A Transient Thermal Impedance, Junction-Case

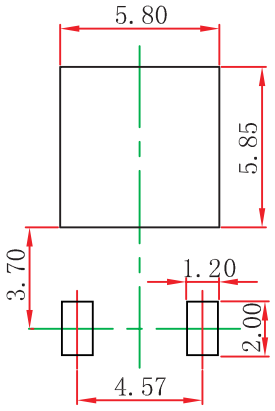


TO-252-2L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.635	0.770	0.025	0.030
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.712	10.312	0.382	0.406
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
L4	0.600	1.000	0.024	0.039
Φ	1.100	1.300	0.043	0.051
θ	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.250 REF.		0.207 REF.	

TO-252-2L Suggested Pad Layout

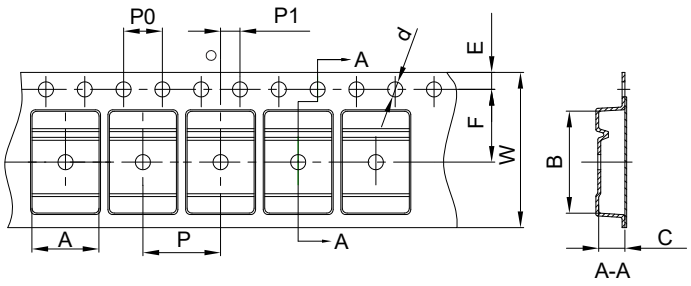


Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

NOTICE
SZCJ reserves the right to make modifications,enhan nts,improvements,corrections or other es without further notice to any product herein. SZCJ does not assume any liability arising out of the application or use of any product described h

TO-252-2L Tape and Reel

TO-252-2L Embossed Carrier Tabe

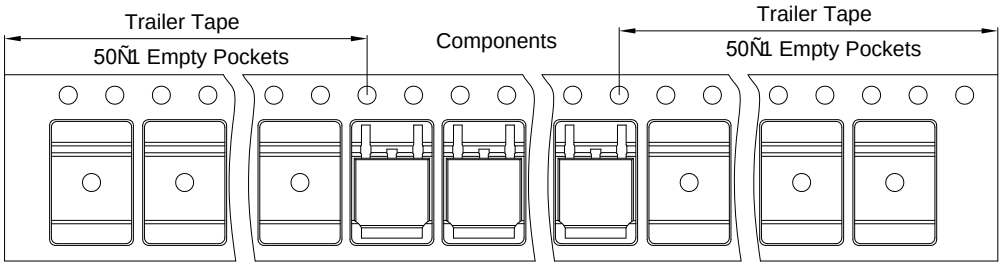


Packaging Description:

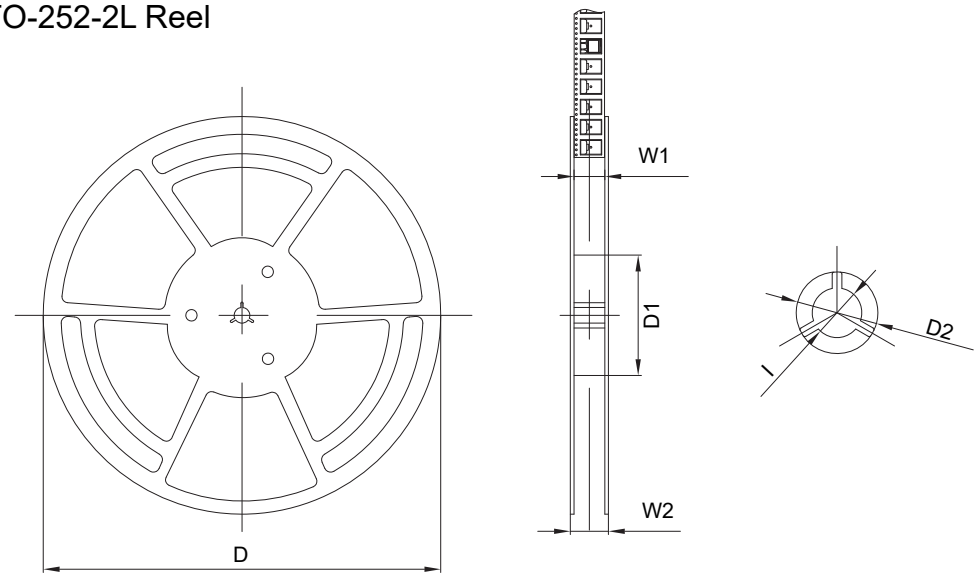
TO-252-2L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Hear Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 2500 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-252	6.90	10.50	2.70	Φ1.55	1.75	7.50	4.00	8.00	2.00	16.00

TO-252-2L Tape Leader and Trailer



TO-252-2L Reel



Dimensions are in millimeter						
Reel	D	D1	D2	W1	W2	I
13" Dia	330.00	100.00	Φ21.00	16.40	21.40	Φ13.00

Reel	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)
2500 pcs	13 inch	5000 pcs	360×360×65	25000 pcs	378×358×382

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