

TO-252-2L Plastic-Encapsulate Diode

HYPERFAST RECTIFIER,FRED

MAIN CHARACTERISTICS

I_O	8A
V_{RRM}	600V
T_{rr}	25ns
T_j	175°C
$V_{F(typ)}$	1.06V(@ $T_j=150^{\circ}C$)

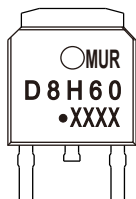
FEATURES

- 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.

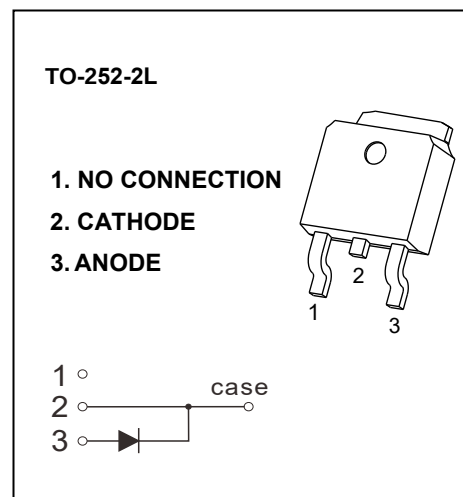
MARKING



MURD8H60 = Device code

Solid dot = Green molding compound device
if none, the normal device

XXXX = Code



MAXIMUM RATINGS ($T_c=25^{\circ}C$ unless otherwise noted)

Symbol	Parameter	MURD8H60	Unit
V_{RRM}	Peak Repetitive Reverse Voltage	600	V
V_R	DC Blocking Voltage		
$I_{F(AV)}$	Average Forward Current($T_c=137^{\circ}C$)	8	A
$I_{F(RMS)}$	RMS Forward Current($T_c=137^{\circ}C$)	11	A
I_{FSM}	Non-Repetitive Surge Forward Current (8.3ms)	112	A
P_D	Power dissipation	50	W
$R_{\theta JC}$	Thermal Resistance From Junction to Case	3.0	$^{\circ}C/W$
T_j	Operating Junction Temperature Range	-55 ~ +175	$^{\circ}C$
T_{stg}	Storage Temperature Range	-55 ~ +175	$^{\circ}C$

Typical Characteristics

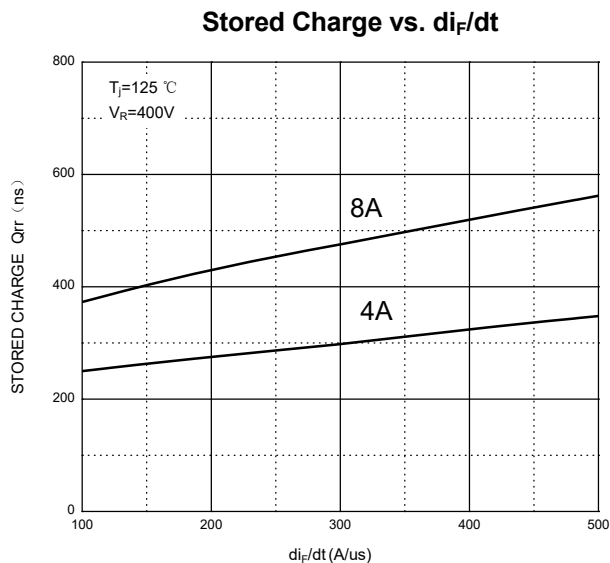
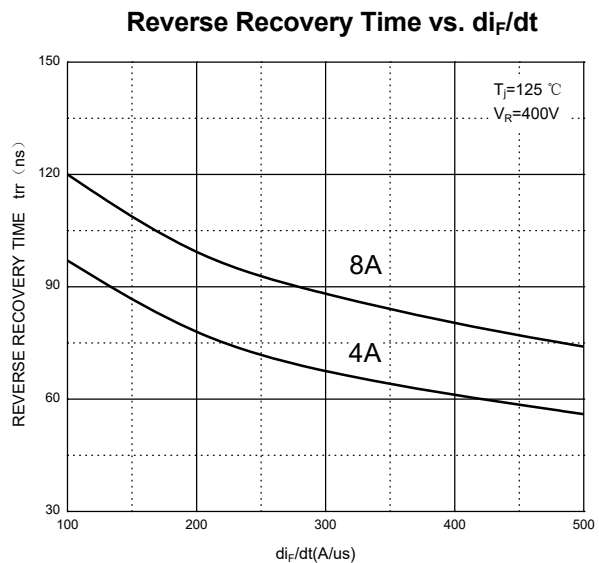
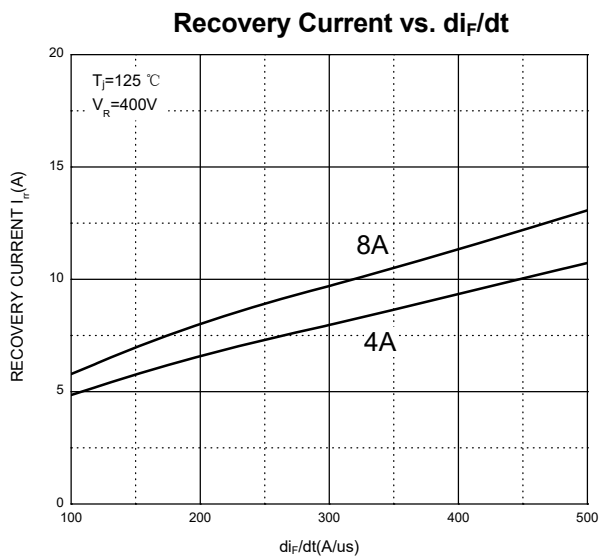
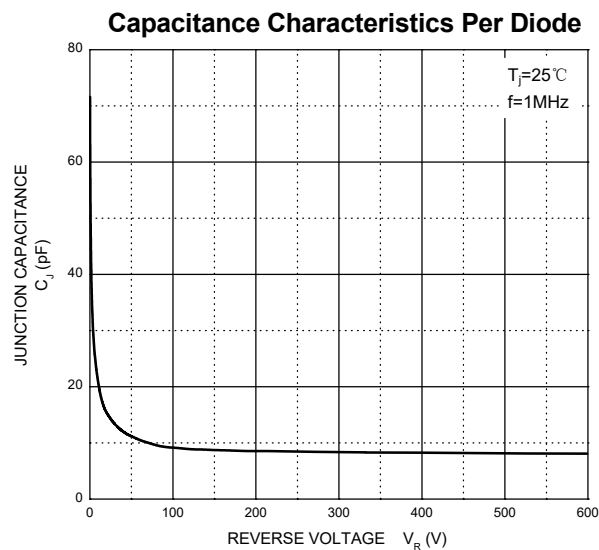
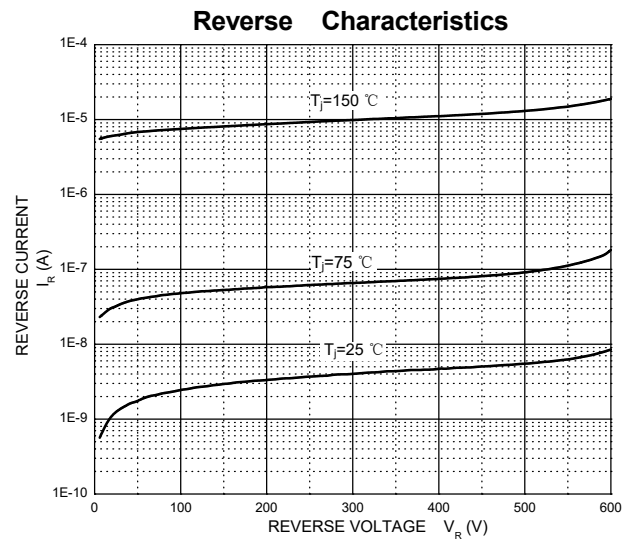
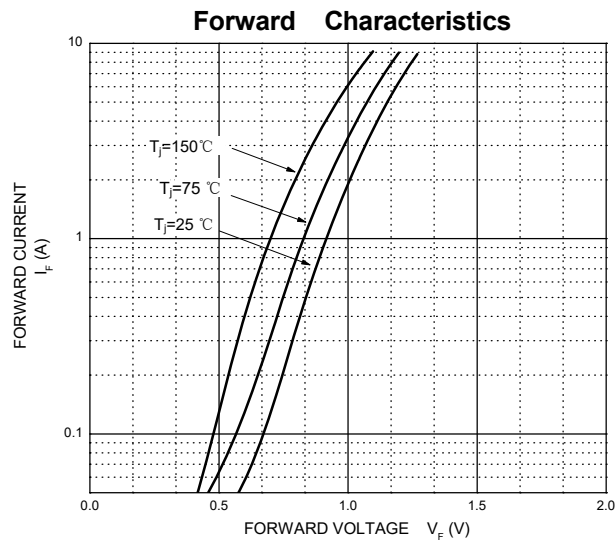
ELECTRICAL CHARACTERISTICS ($T_c=25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
$V_{(BR)}$	Reverse Voltage	$I_R=100\mu\text{A}$		600			V
I_R	Reverse Current	$V_R=600\text{V}$	$T_j=25^\circ\text{C}$			10	μA
			$T_j=150^\circ\text{C}$			500	μA
V_F	Forward Voltage	$I_F=8\text{A}$	$T_j=25^\circ\text{C}$		1.25	1.6	V
			$T_j=150^\circ\text{C}$		1.06		V
C_{tot}	Total Capacitance	$V_R=200\text{V}, f=1\text{MHz}$			8		pF
t_{rr}	Reverse Recovery time	$I_F=0.5\text{A}, I_R=1\text{A}, I_{rr}=0.25\text{A}$			34		ns
		$I_F=1\text{A}, V_R=30\text{V}, di_F/dt=200\text{A}/\mu\text{s}$			25		ns

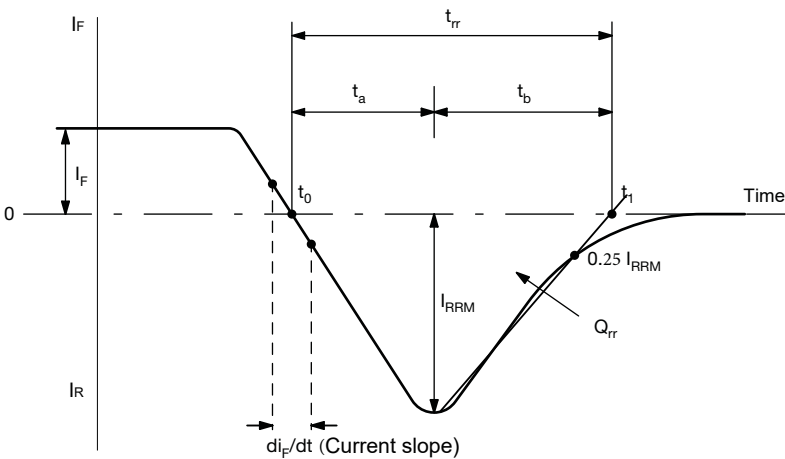
ELECTRICAL CHARACTERISTICS ($T_c=25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
t_{rr}	Reverse Recovery Time	$I_F=8\text{A}, V_R=400\text{V}, di_F/dt=200\text{A}/\mu\text{s}$		68		ns
I_{RRM}	Max. Reverse Recovery Current			4.9		A
Q_{rr}	Reverse Recovery Charge			185		nC
t_{rr}	Reverse Recovery Time	$I_F=8\text{A}, V_R=400\text{V}, di_F/dt=200\text{A}/\mu\text{s}, T_j=125^\circ\text{C}$		97		ns
I_{RRM}	Max. Reverse Recovery Current			8		A
Q_{rr}	Reverse Recovery Charge			433		nC
t_{rr}	Reverse Recovery Time	$I_F=8\text{A}, V_R=400\text{V}, di_F/dt=500\text{A}/\mu\text{s}, T_j=125^\circ\text{C}$		74		ns
I_{RRM}	Max. Reverse Recovery Current			13		A
Q_{rr}	Reverse Recovery Charge			562		nC

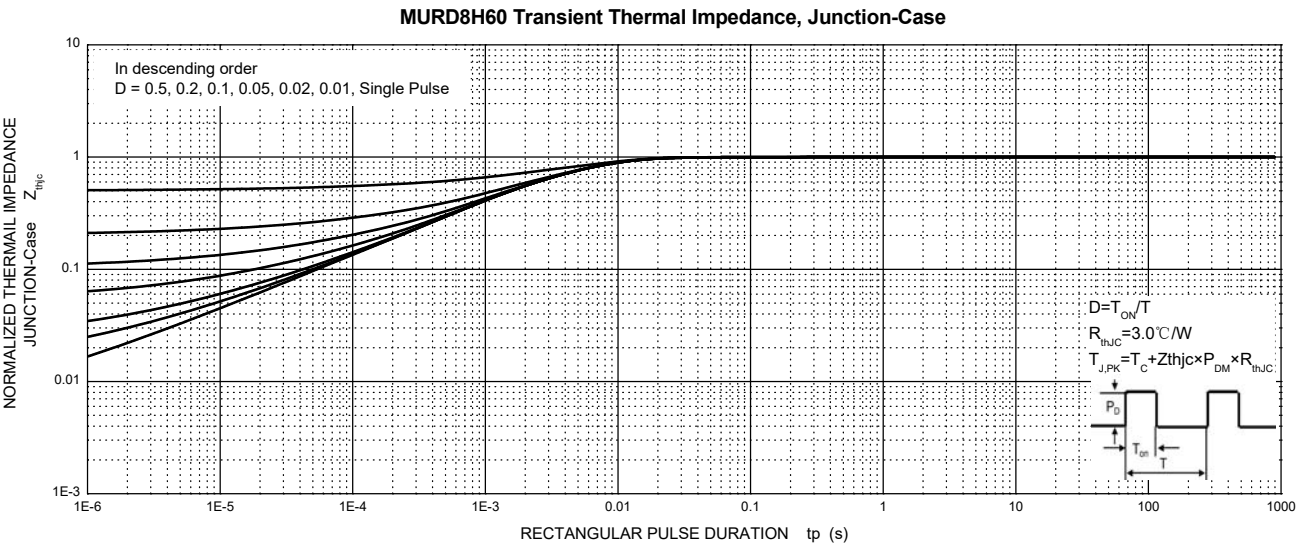
Typical Characteristics



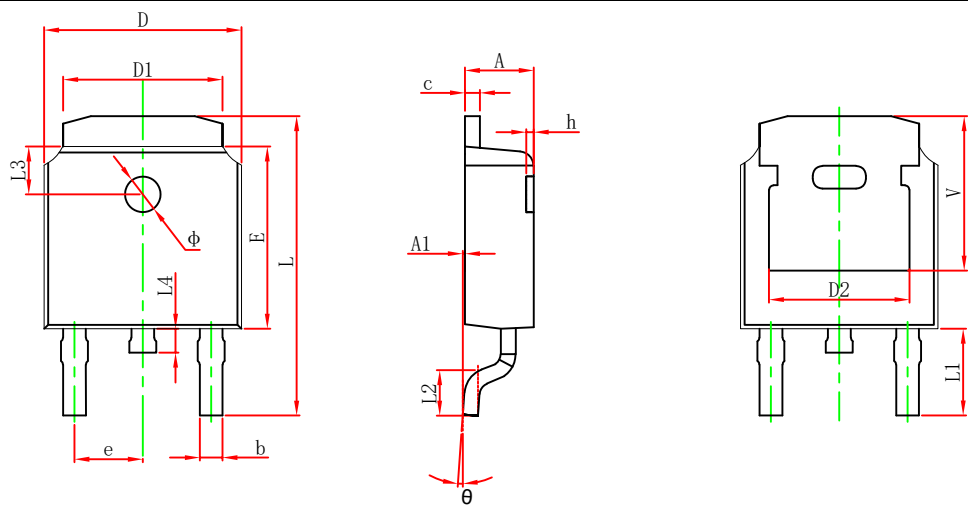
Typical Characteristics



Reverse Recovery Waveform and Definitions

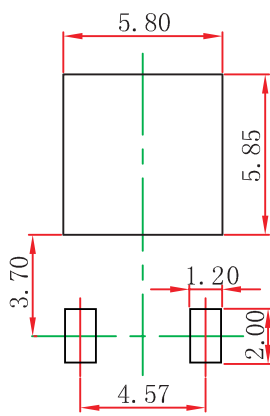


TO-252-2L Package Outline Dimensions



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	0.700	0.860	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	6.300	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

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