

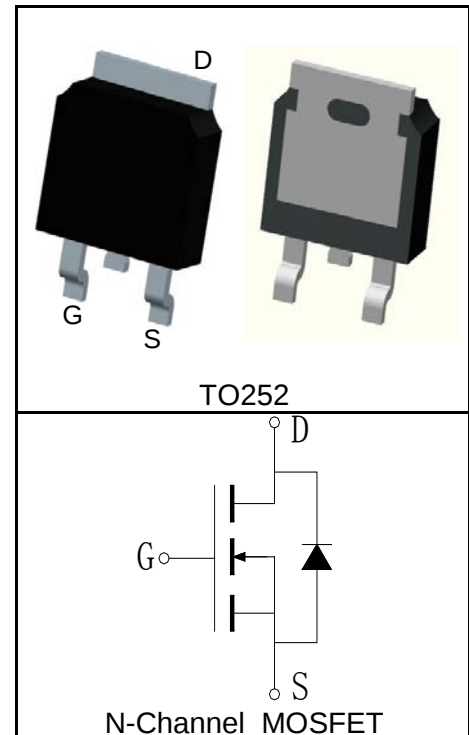
Features

- 600V/2A,
- $R_{DS(ON)} = 4000m\Omega(Typ.)@V_{GS}=10V$
- Gate charge minimized
- Low C_{rss} (Typ. 5pF)
- Extremely high dv/dt capability
- 100% avalanche tested
- Lead Free and Green Devices Available (RoHS Compliant)

Applications

- High efficiency switch mode power supplies
- Lighting

Pin Description



Absolute Maximum Ratings

Symbol	Parameter		Rating	Unit
Common Ratings (T _C =25°C Unless Otherwise Noted)				
V _{DSS}	Drain-Source Voltage		600	V
V _{GSS}	Gate-Source Voltage		±30	
T _J	Maximum Junction Temperature		150	°C
T _{STG}	Storage Temperature Range		-55 to 150	°C
I _S	Diode Continuous Forward Current	T _C =25°C	2	A
Mounted on Large Heat Sink				
I _{DP} ^①	300μs Pulse Drain Current Tested	T _C =25°C	8	A
I _D ^②	Continuous Drain Current(V _{GS} =10V)	T _C =25°C	2	A
		T _C =100°C	1.2	
P _D	Maximum Power Dissipation	T _C =25°C	56	W
		T _C =100°C	22	
R _{θJC}	Thermal Resistance-Junction to Case		2.2	°C/W
R _{θJA}	Thermal Resistance-Junction to Ambient		100	°C/W
Drain-Source Avalanche Ratings				
E _{AS} ^③	Avalanche Energy, Single Pulsed		34	mJ

Electrical Characteristics ($T_C=25^{\circ}\text{C}$ Unless Otherwise Noted)

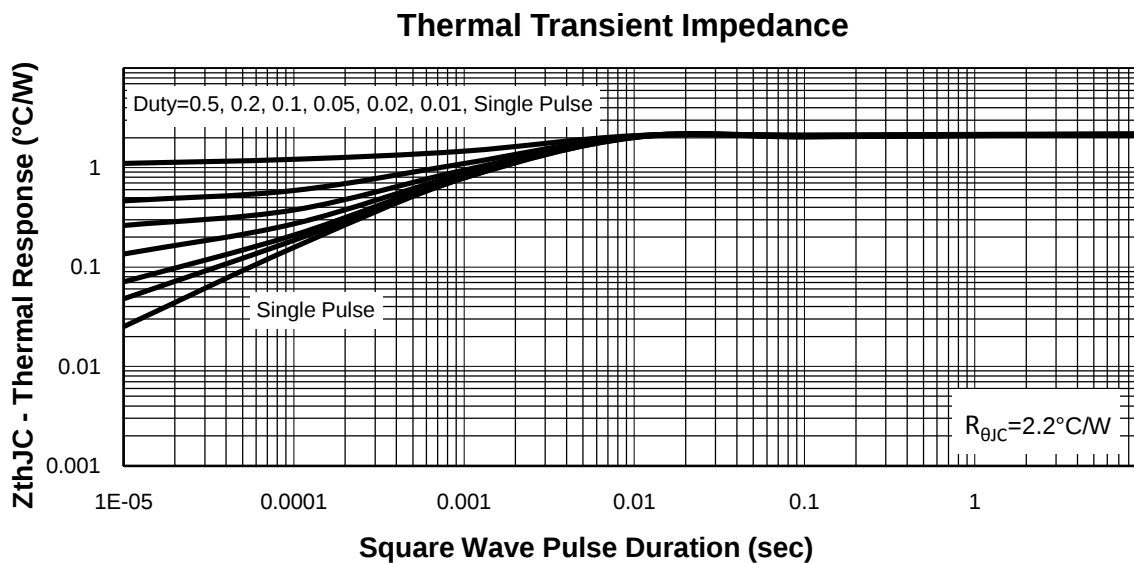
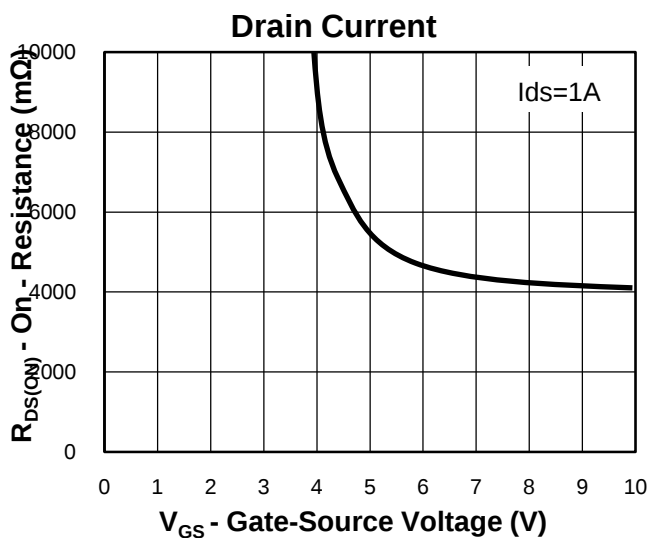
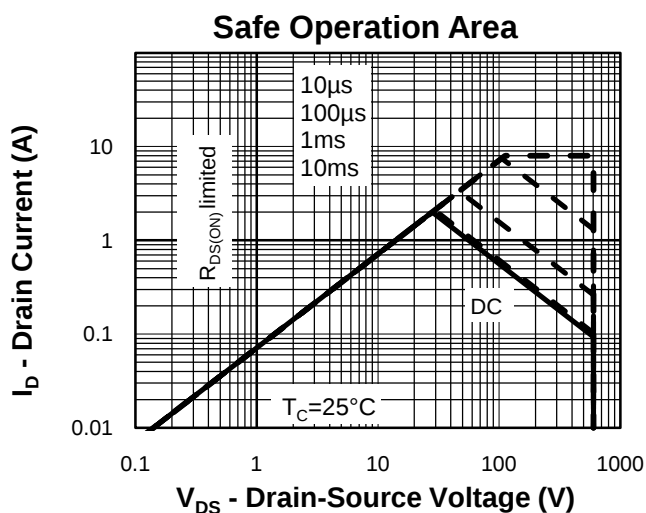
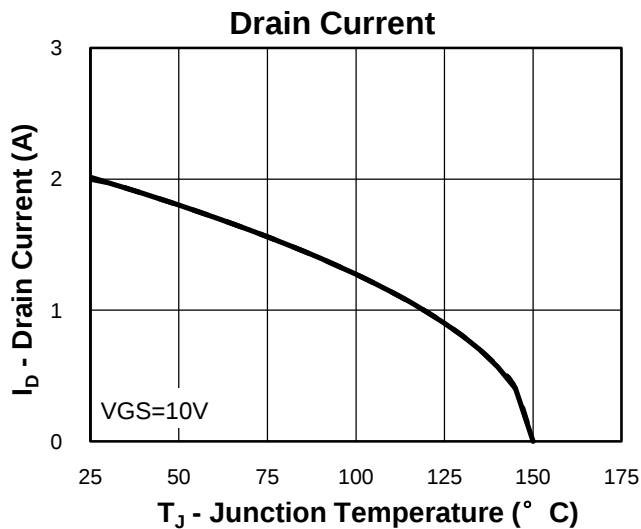
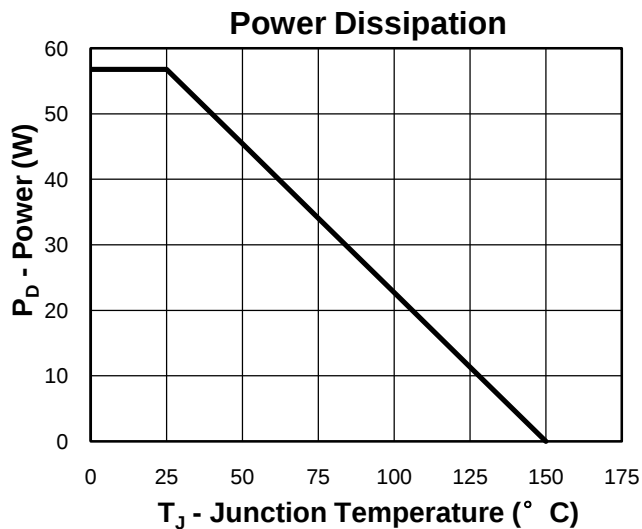
Symbol	Parameter	Test Condition	RU6H2L			Unit
			Min.	Typ.	Max.	
Static Characteristics						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _{DS} =250μA	600			V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =600V, V _{GS} =0V			1	μA
			T _J =125°C		30	
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _{DS} =250μA	2	3	4	V
I _{GSS}	Gate Leakage Current	V _{GS} =±30V, V _{DS} =0V			±100	nA
R _{DS(ON)} ^④	Drain-Source On-state Resistance	V _{GS} =10V, I _{DS} =1A		4000	5000	mΩ
Diode Characteristics						
V _{SD} ^④	Diode Forward Voltage	I _{SD} =2A, V _{GS} =0V			1.2	V
t _{rr}	Reverse Recovery Time	I _{SD} =2A, dI _{SD} /dt=100A/μs		190		ns
Q _{rr}	Reverse Recovery Charge			0.77		μC
Dynamic Characteristics ^⑤						
R _G	Gate Resistance	V _{GS} =0V,V _{DS} =0V,F=1MHz		8		Ω
C _{iss}	Input Capacitance	V _{GS} =0V, V _{DS} =300V, Frequency=1.0MHz		280		pF
C _{oss}	Output Capacitance			45		
C _{rss}	Reverse Transfer Capacitance			5		
t _{d(ON)}	Turn-on Delay Time	V _{DD} =300V, R _L =150Ω, I _{DS} =2A, V _{GEN} =10V, R _G =25Ω		10		ns
t _r	Turn-on Rise Time			25		
t _{d(OFF)}	Turn-off Delay Time			20		
t _f	Turn-off Fall Time			25		
Gate Charge Characteristics ^⑤						
Q _g	Total Gate Charge	V _{DS} =480V, V _{GS} =10V, I _{DS} =2A		9		nC
Q _{gs}	Gate-Source Charge			1.7		
Q _{gd}	Gate-Drain Charge			4.5		

- Notes:
- ① Pulse width limited by safe operating area.
 - ② Calculated continuous current based on maximum allowable junction temperature.
 - ③ Limited by T_{Jmax} , $I_{AS}=2.6A$, $V_{DD}=100V$, $R_G=50\Omega$, Starting $T_J=25^{\circ}\text{C}$.
 - ④ Pulse test; Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
 - ⑤ Guaranteed by design, not subject to production testing.

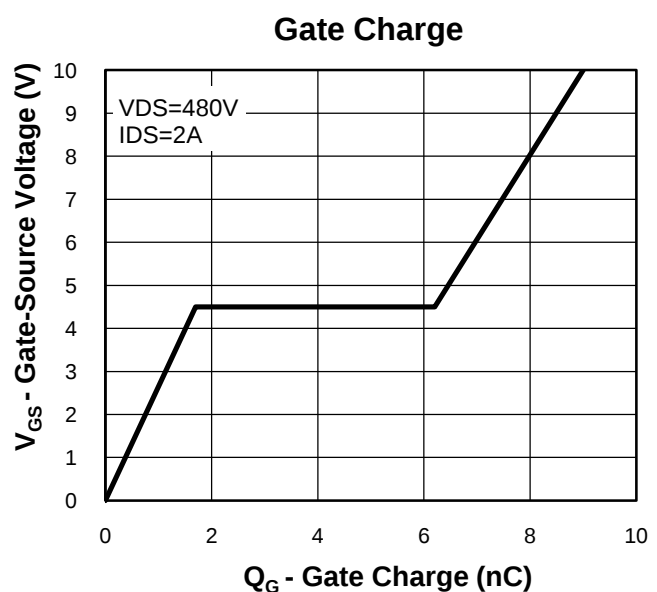
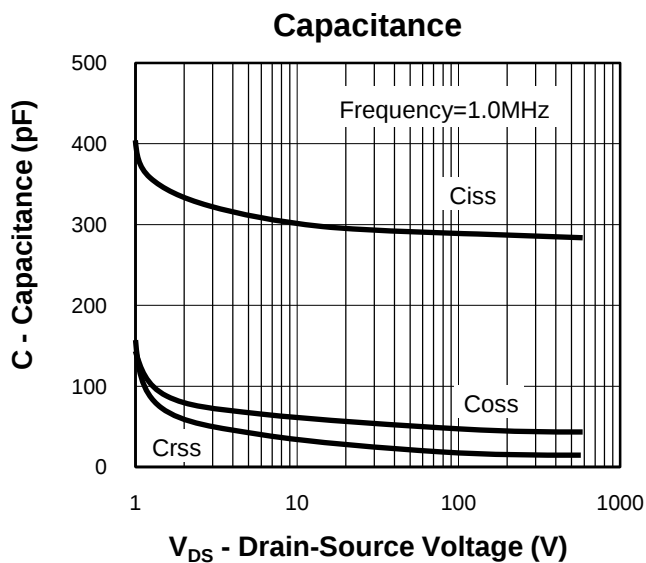
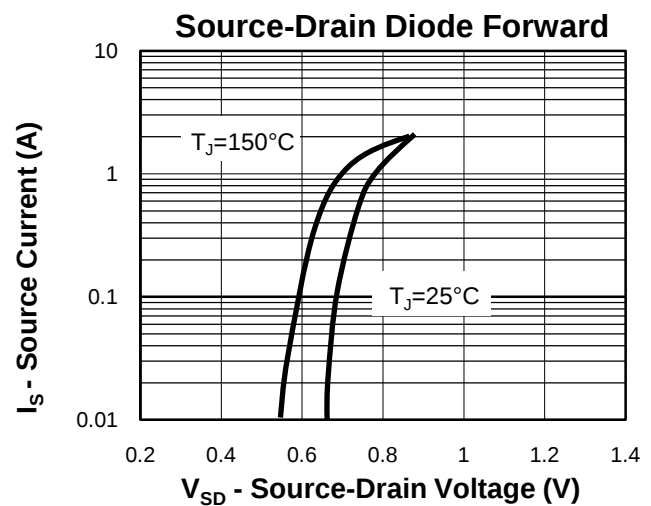
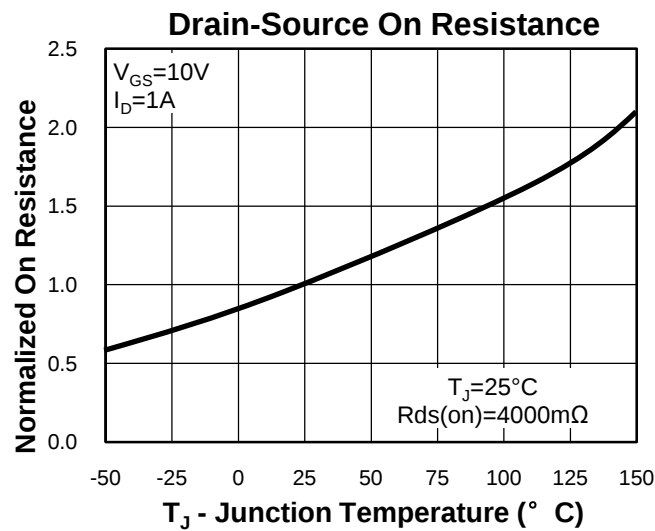
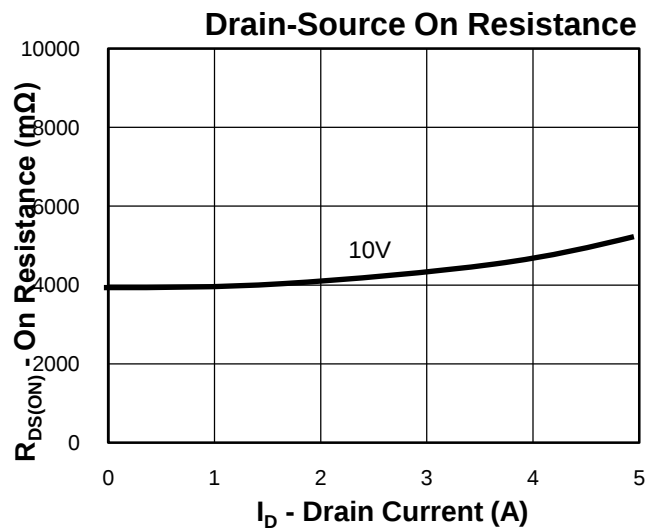
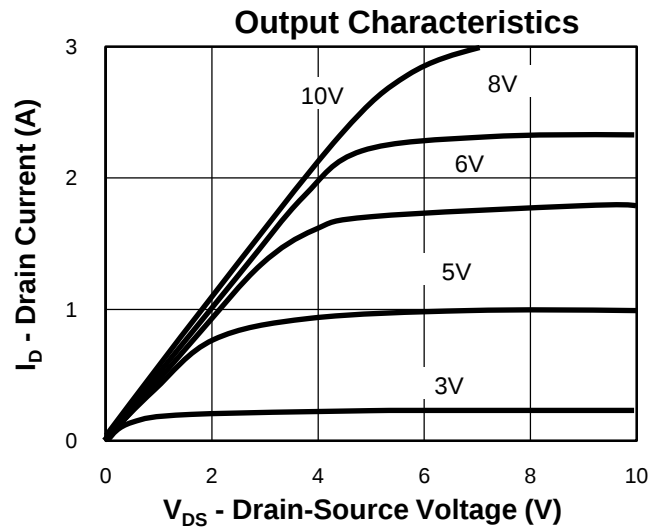
Ordering and Marking Information

Device	Marking	Package	Packaging	Quantity	Reel Size	Tape width
RU6H2L	RU6H2L	TO252	Tape&Reel	2500	13"	16mm

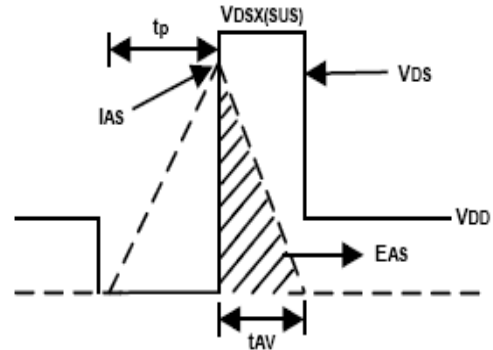
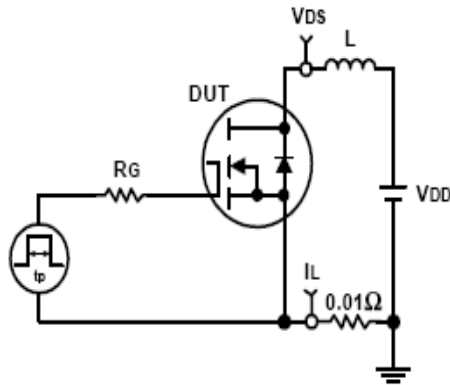
Typical Characteristics



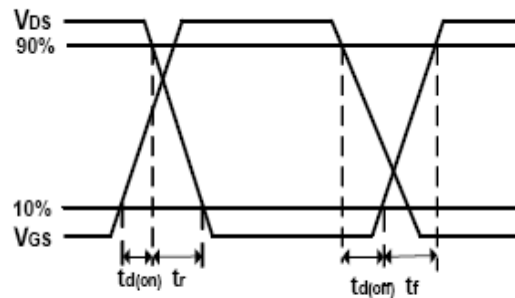
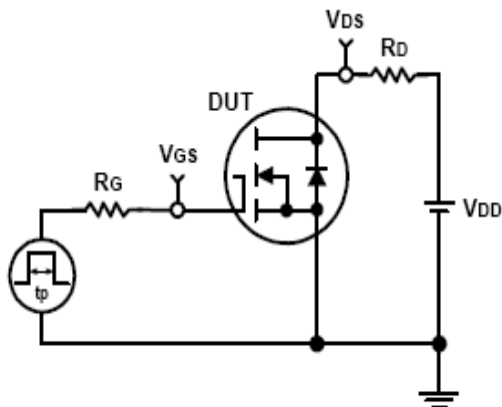
Typical Characteristics



Avalanche Test Circuit and Waveforms

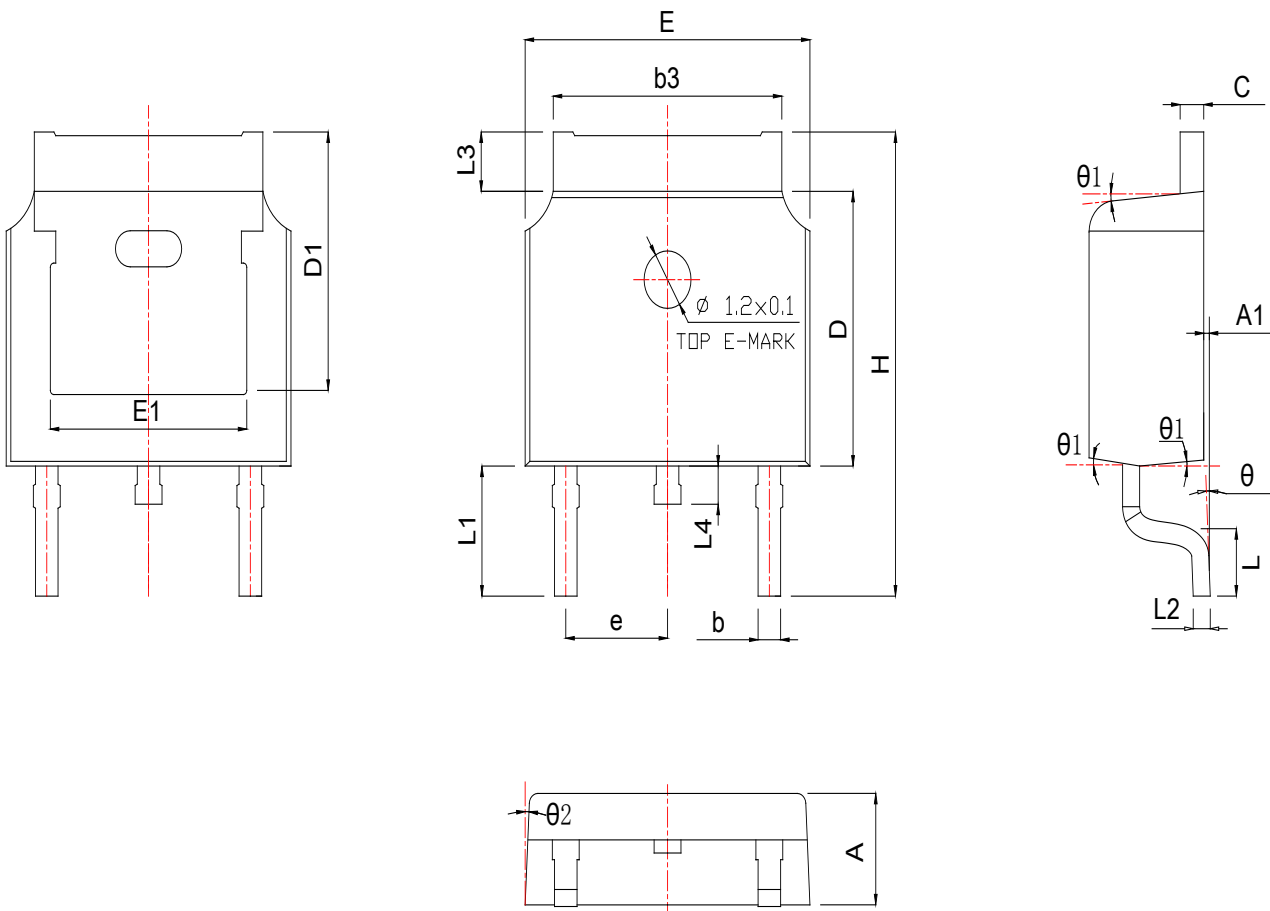


Switching Time Test Circuit and Waveforms



Package Information

TO252



SYMBOL	MM			INCH		
	MIN	NOM	MAX	MIN	NOM	MAX
A	2.200	2.290	2.380	0.087	0.090	0.094
A1	0.000		0.100	0.000		0.004
b	0.720	0.785	0.850	0.028	0.031	0.033
b3	5.230	5.345	5.460	0.206	0.210	0.215
c	0.470	0.525	0.580	0.019	0.021	0.023
D	6.000	6.100	6.200	0.236	0.240	0.244
D1		5.30 REF			0.20 REF	
E	6.500	6.600	6.700	0.256	0.260	0.264
E1	4.700	4.810	4.920	0.185	0.189	0.194
e	2.28 REF			0.09 REF		
H	9.900	10.100	10.300	0.390	0.398	0.406
L	1.400	1.550	1.700	0.055	0.061	0.067
L1		2.743 REF			0.108 REF	
L2	0.510 BSC			0.020 BSC		
L3	0.900	1.075	1.250	0.035	0.042	0.049
L4	0.600	0.800	1.000	0.024	0.031	0.039
θ	0°		8°	0°		8°
$\theta 1$	5°	7°	9°	5°	7°	9°
$\theta 2$	5°	7°	9°	5°	7°	9°

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