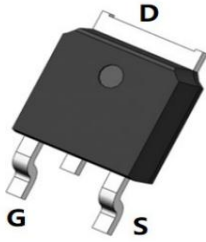


Features

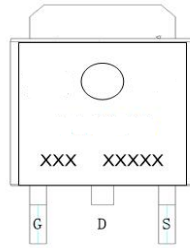
- 100V, 10A
 $R_{DS(ON)}$ Typ= 117m Ω @ $V_{GS} = 10V$
 $R_{DS(ON)}$ Typ= 126m Ω @ $V_{GS} = 4.5V$
- Advanced Trench Technology
- Excellent $R_{DS(ON)}$ and Low Gate Charge

Applications

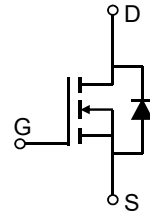
- Load Switch
- PWM Application
- Power Management



TO-252-3L



Marking and Pin Assignment



Schematic Diagram

Package Marking and Ordering Information

Device Marking	Device	Outline	Package	Reel Size	Reel(pcs)	Per Carton (pcs)
LX252T10N100	LX252T10N100	TAPING	TO-252-3L	13"	2500	25000

Absolute Maximum Ratings (@ $T_J = 25^\circ C$ unless otherwise specified)

Symbol	Parameter	Value	Units
V_{DS}	Drain-to-Source Voltage	100	V
V_{GS}	Gate-to-Source Voltage	± 20	V
I_b	Continuous Drain Current	$T_C = 25^\circ C$	10
		$T_C = 100^\circ C$	6
I_{bM}	Pulsed Drain Current ⁽¹⁾	40	A
E_{AS}	Single Pulsed Avalanche Energy	12	mJ
P_D	Power Dissipation	$T_C = 25^\circ C$	26.6
$R_{\theta JC}$	Thermal Resistance, Junction to Case	4.7	$^\circ C/W$
T_J, T_{STG}	Junction & Storage Temperature Range	-55 to 150	$^\circ C$



Electrical Characteristics(T_J= 25°C unless otherwise specified)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
Off Characteristics						
V _{(BR)DSS}	Drain-Source Breakdown Voltage	I _D = 250μA, V _{GS} = 0V	100	-	-	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = 100V, V _{GS} = 0V	-	-	1.0	μA
I _{GSS}	Gate-Body Leakage Current	V _{DS} = 0V, V _{GS} = ±20V	-	-	±100	nA
On Characteristics						
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} , I _D = 250μA	1.0	2.0	2.5	V
R _{DS(ON)}	Static Drain-Source ON-Resistance ⁽³⁾	V _{GS} = 10V, I _D = 5A	-	117	152	mΩ
		V _{GS} = 4.5V, I _D = 3A	-	126	164	mΩ
Dynamic Characteristics						
C _{iss}	Input Capacitance	V _{GS} = 0V, V _{DS} = 25V, f = 1MHz	-	480	-	pF
C _{oss}	Output Capacitance		-	30	-	pF
C _{riss}	Reverse Transfer Capacitance		-	22	-	pF
Q _g	Total Gate Charge	V _{GS} = 0 to 10V V _{DS} = 30V, I _D = 3A	-	14.8	-	nC
Q _{gs}	Gate Source Charge		-	3	-	nC
Q _{gd}	Gate Drain("Miller") Charge		-	4.4	-	nC
Switching Characteristics						
t _{d(on)}	Turn-On DelayTime	V _{GS} = 10V, V _{DD} = 30V I _D = 3A, R _{GEN} = 3Ω	-	12	-	ns
t _r	Turn-On Rise Time		-	7.6	-	ns
t _{d(off)}	Turn-Off DelayTime		-	36	-	ns
t _f	Turn-Off Fall Time		-	9.2	-	ns
Drain-Source Diode Characteristics and Max Ratings						
I _S	Maximum Continuous Drain to Source Diode Forward Current		-	-	10	A
I _{SM}	Maximum Pulsed Drain to Source Diode Forward Current		-	-	40	A
V _{SD}	Drain to Source Diode Forward Voltage	V _{GS} = 0V, I _S = 10A	-	-	1.2	V

- Notes: 1. Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature.
2. E_{AS} condition: Starting T_J=25C, V_{DD}=50V, V_G=10V, R_G=25ohm, L=0.5mH, I_{AS}=7A
3. Pulse Test: Pulse Width≤300μs, Duty Cycle≤0.5%.

Test Circuit

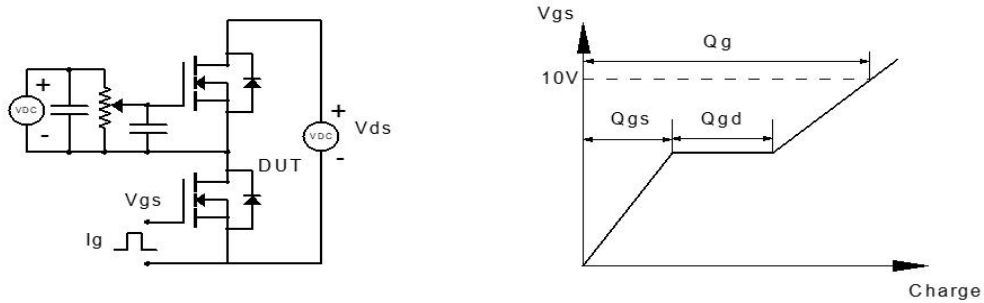


Figure 1: Gate Charge Test Circuit & Waveform

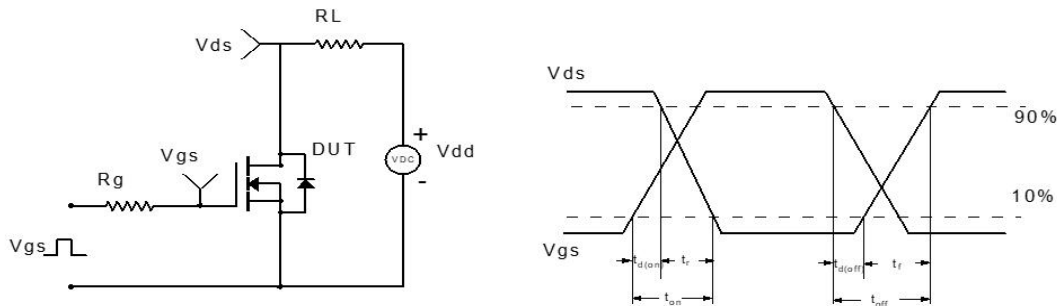


Figure 2: Resistive Switching Test Circuit & Waveform

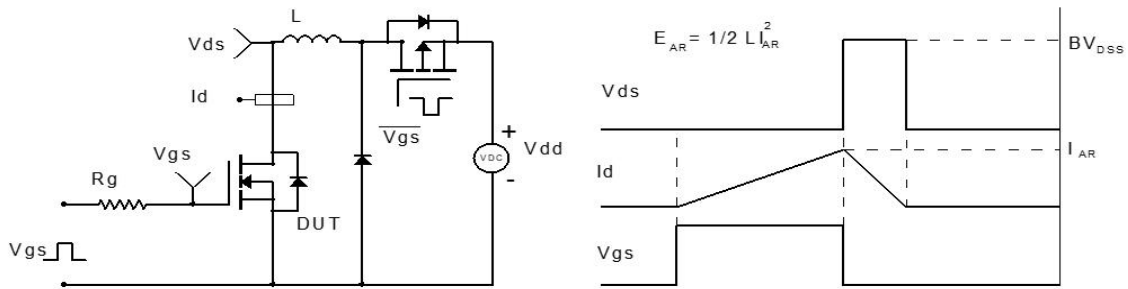


Figure 3: Unclamped Inductive Switching Test Circuit & Waveform

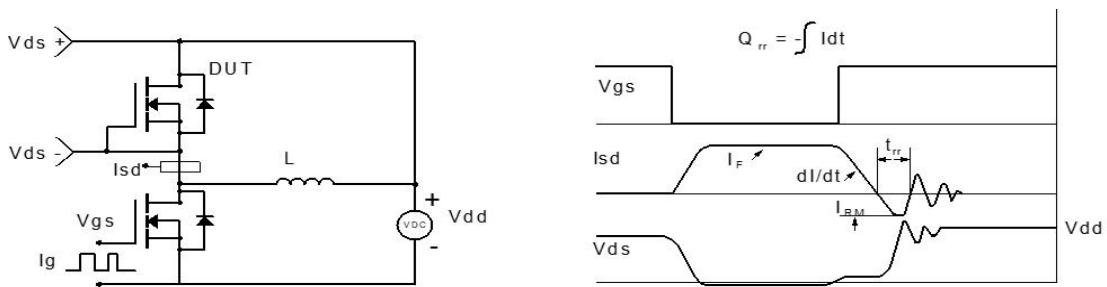
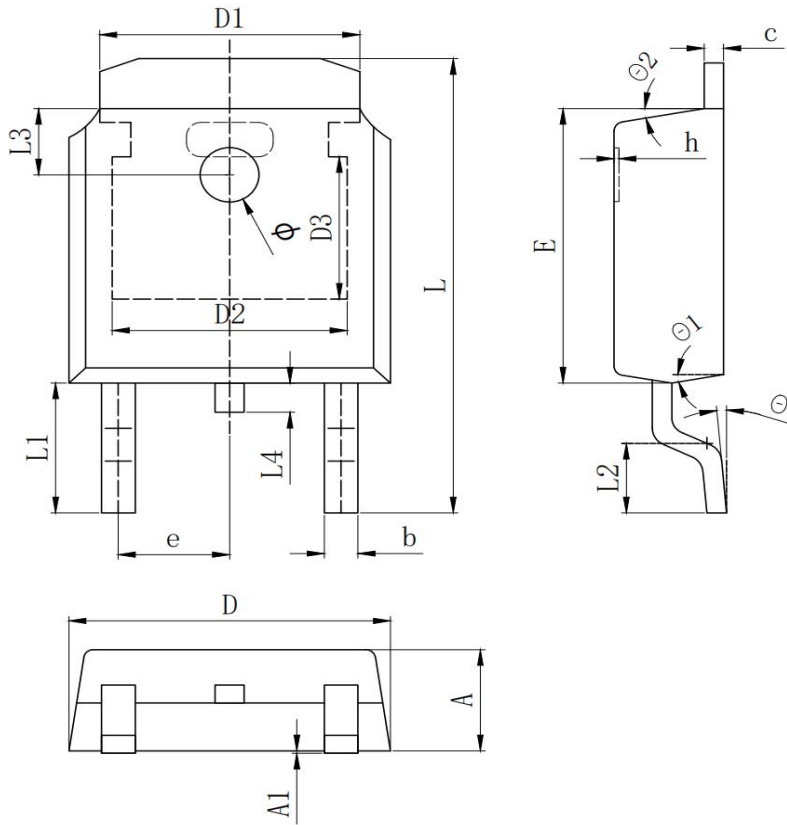


Figure 4: Diode Recovery Test Circuit & Waveform

Package Mechanical Data(TO-252-3L)



SYMBOL	MILLIMETER		
	MIN	Typ.	MAX
A	2.200	2.300	2.400
A1	0.000		0.127
b	0.640	0.690	0.740
c(电镀后)	0.460	0.520	0.580
D	6.500	6.600	6.700
D1	5.334 REF		
D2	4.826 REF		
D3	3.166 REF		
E	6.000	6.100	6.200
e	2.286 TYP		
h	0.000	0.100	0.200
L	9.900	10.100	10.300
L1	2.888 REF		
L2	1.400	1.550	1.700
L3	1.600 REF		
L4	0.600	0.800	1.000
Φ	1.100	1.200	1.300
θ	0°		8°
θ1	9° TYP		
θ2	9° TYP		