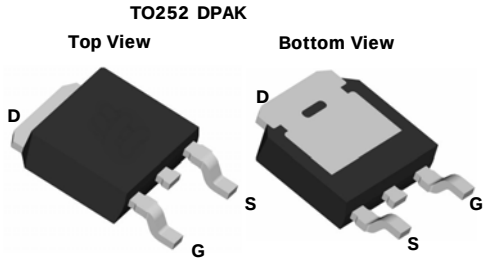
Features

- -100V, -15A

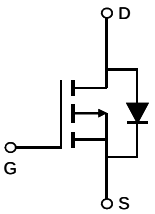
  $R_{DS(ON)}$ Typ = 162mΩ @ V_{GS} = -10V

  $R_{DS(ON)}$ Typ = 179 mΩ @ V_{GS} = -4.5V
- Excellent $R_{DS(ON)}$ and Low Gate Charge



Application

- Load Switch
- PWM Application
- Power Management



Absolute Maximum Ratings (T_A=25℃ unless otherwise specified)

Symbol	Parameter		Max.	Units
V_{DSS}	Drain-Source Voltage		-100	V
V_{GSS}	Gate-Source Voltage		±20	V
I_D	Continuous Drain Current	T_A= 25℃	-15	A
		T_A= 100℃	-7.5	
I_{DM}	Pulsed Drain Current note1		-75	A
P_D	Power Dissipation	T_A= 25℃	104	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient		1.2	℃/W
T_J, T_{STG}	Operating and Storage Temperature Range		-55 to +150	℃

Electrical Characteristics (T_J=25℃ unless otherwise specified)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristic						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	V_{GS}=0V, I_D= -250μA	-100	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}= -80V, V_{GS}=0V,	-	-	-1	μA
I_{GSS}	Gate to 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	-1.4	-1.9	-2.6	V
$R_{DS(on)}$	Static Drain-Source on-Resistance note2	V_{GS}= -10 V, I_D= -3 A		162	180	mΩ
		V_{GS}= -4.5V, I_D= -3.0A		179	200	
Dynamic Characteristics						
C_{iss}	Input Capacitance	V_{DS}= -25V, V_{GS}=0V, f=1.0MHz		1230		pF
C_{oss}	Output Capacitance		-	622	-	pF
C_{rss}	Reverse Transfer Capacitance		-	44	-	pF
Q_g	Total Gate Charge	V_{DS}= -50V, I_D= -3A, V_{GS}= -0-10V	-	19	-	nC
Q_{gs}	Gate-Source Charge		-	7	-	nC
Q_{gd}	Gate-Drain(“Miller”) Charge		-	4	-	nC
Switching Characteristics						
$t_{d(on)}$	Turn-on Delay Time	V_{DD}= -50V, I_D= -3A, R_G= 6Ω, V_{GEN}= -10V	-	10	-	ns
t_r	Turn-on Rise Time		-	55	-	ns
$t_{d(off)}$	Turn-off Delay Time		-	40	-	ns
t_f	Turn-off Fall Time		-	75	-	ns
Drain-Source Diode Characteristics and Maximum Ratings						
I_S	Maximum Continuous Drain to Source Diode Forward Current		-	-	-15	A
I_{SM}	Maximum Pulsed Drain to Source Diode Forward Current		-	-	-75	A
V_{SD}	Drain to Source Diode Forward Voltage	V_{GS}=0V, I_S= -3A	-	-	-0.7	V

Notes:
1. Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature.
2. E_{AS} condition: Starting T_J=25°C, V_{DD}=-50V, V_G=-10V, R_G=25ohm, L=0.5mH, I_{AS}=-21A
3. Pulse Test: Pulse Width≤300μs, Duty Cycle≤0.5%.

Test Circuit

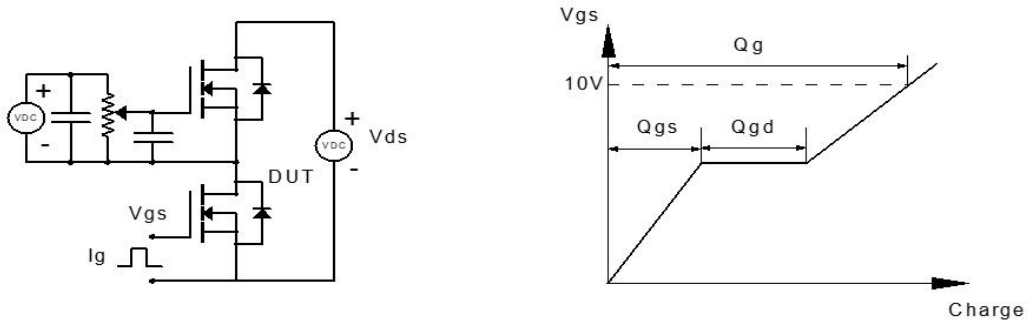


Figure 1: Gate Charge Test Circuit & Waveform

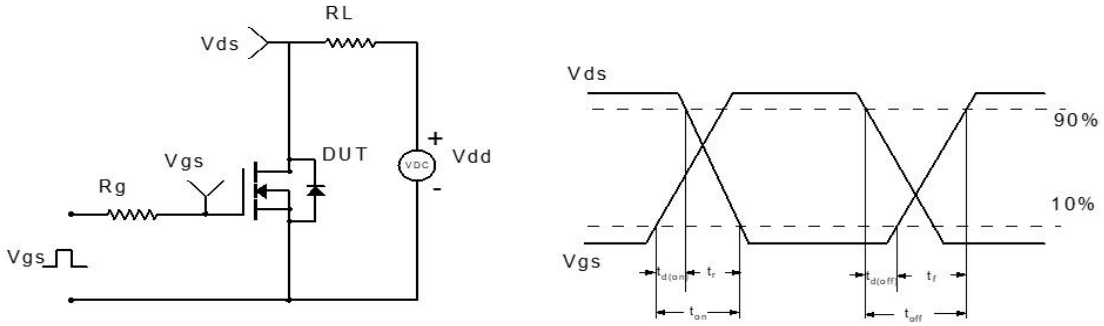


Figure 2: Resistive Switching Test Circuit & Waveform

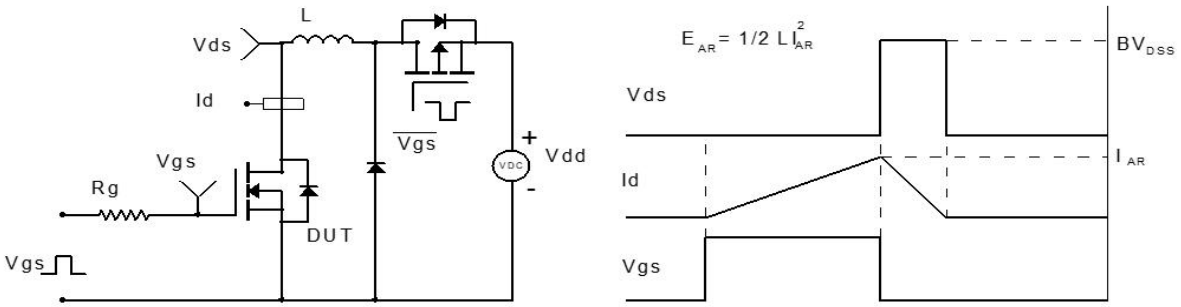


Figure 3: Unclamped Inductive Switching Test Circuit& Waveform

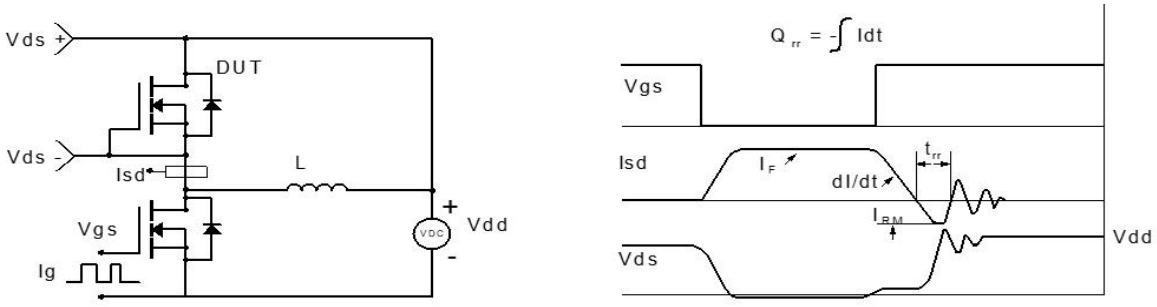
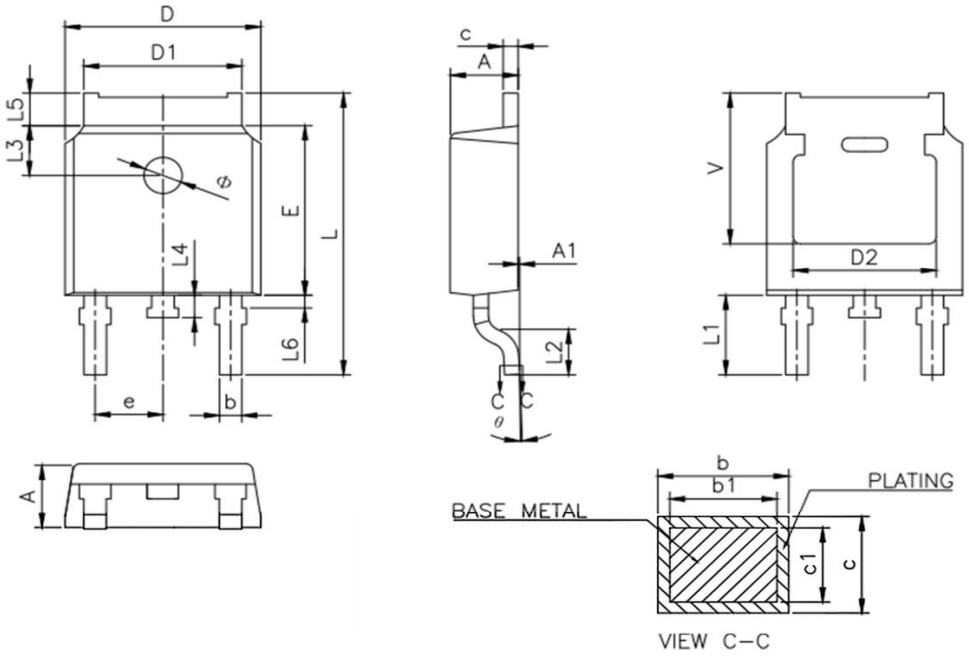


Figure 4: Diode Recovery Test Circuit & Waveform

Package Mechanical Data(TO-252-3L)



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	2.20	2.30	2.40
A1	0.00	--	0.127
b	0.66	--	0.86
b1	0.65	0.76	0.81
D	6.50	6.60	6.70
D1	5.10	5.33	5.46
c	0.47	--	0.60
c1	0.46	0.51	0.56
D2	4.83 REF.		
E	6.00	6.10	6.20
e	2.186	2.286	2.386
L	9.80	10.10	10.40
L1	2.90 REF.		
L2	1.40	1.50	1.60
L3	1.80 REF.		
L4	0.60	0.80	1.00
L5	0.90	--	1.25
L6	0.15	--	0.75
Φ	1.10	--	1.30
θ	0°	--	8°
V	5.40 REF		