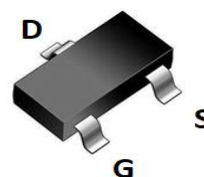


Features

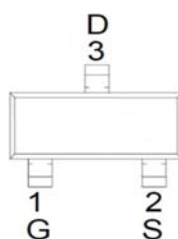
- 200V, 1A
- $R_{DS(ON)}$ Typ = 660m Ω @ V_{GS} = 10V
- $R_{DS(ON)}$ Typ = 683m Ω @ V_{GS} = 4.5V
- Advanced Trench Technology
- Excellent $R_{DS(ON)}$ and Low Gate Charge
- Lead Free



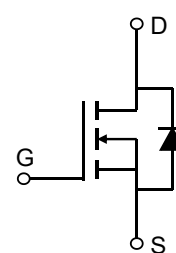
SOT-23-3L Top View

Application

- Load Switch
- PWM Application
- Power Management



Pin Assignment



Schematic Diagram

Absolute Maximum Ratings (@ T_J = 25°C unless otherwise specified)

Symbol	Parameter	Value	Units
V_{DS}	Drain-to-Source Voltage	200	V
V_{GS}	Gate-to-Source Voltage	± 20	V
I_D	Continuous Drain Current	$T_A = 25^\circ\text{C}$	1
		$T_A = 100^\circ\text{C}$	0.6
I_{DM}	Pulsed Drain Current ⁽¹⁾	4	A
P_D	Power Dissipation	$T_A = 25^\circ\text{C}$	1.8
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient ⁽²⁾	69	°C/W
T_J, T_{STG}	Junction & Storage Temperature Range	-55 to 150	°C

**Electrical Characteristics** ($T_J = 25^\circ\text{C}$ 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	200	-	-	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = 200V, 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	1.1	1.6	2.2	V
R _{DS(ON)}	Static Drain-Source ON-Resistance ⁽³⁾	V _{GS} = 10V, I _D = 1A	-	660	792	mΩ
		V _{GS} = 4.5V, I _D = 1A	-	683	820	mΩ
Dynamic Characteristics						
C _{iss}	Input Capacitance	V _{GS} = 0V, V _{DS} = 25V, f = 1MHz	-	490	-	pF
C _{oss}	Output Capacitance		-	22	-	pF
C _{rss}	Reverse Transfer Capacitance		-	16	-	pF
Q _g	Total Gate Charge	V _{GS} = 0 to 10V V _{DS} = 100V, I _D = 1A	-	9	-	nC
Q _{gs}	Gate Source Charge		-	2	-	nC
Q _{gd}	Gate Drain("Miller") Charge		-	1.4	-	nC
Switching Characteristics						
t _{d(on)}	Turn-On DelayTime	V _{GS} = 10V, V _{DD} = 100V I _D = 1A, R _{GEN} = 3Ω	-	2	-	ns
t _r	Turn-On Rise Time		-	21.5	-	ns
t _{d(off)}	Turn-Off DelayTime		-	11.2	-	ns
t _f	Turn-Off Fall Time		-	18.8	-	ns
Drain-Source Diode Characteristics and Max Ratings						
I _S	Maximum Continuous Drain to Source Diode Forward Current	V _{GS} = 0V, I _S = 1A	-	-	1	A
I _{SM}	Maximum Pulsed Drain to Source Diode Forward Current		-	-	4	A
V _{SD}	Drain to Source Diode Forward Voltage		-	-	1.2	V

- Notes:
1. Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature.
 2. $R_{\theta JA}$ is measured with the device mounted on a 1inch^2 pad of 2oz copper FR4 PCB
 3. Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 0.5\%$.

Test Circuit

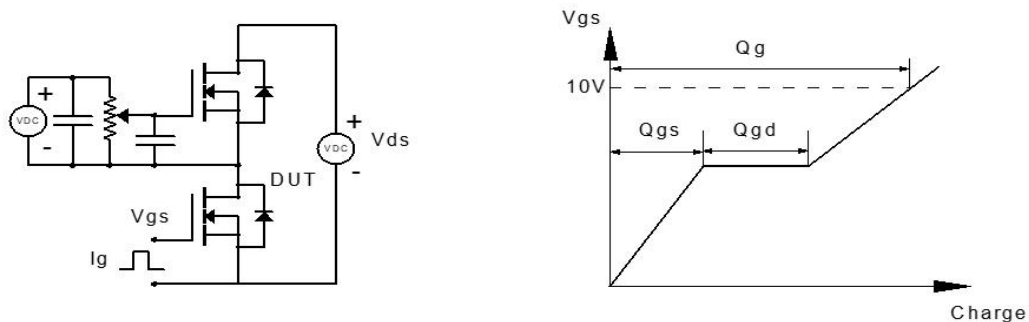


Figure 1: Gate Charge Test Circuit & Waveform

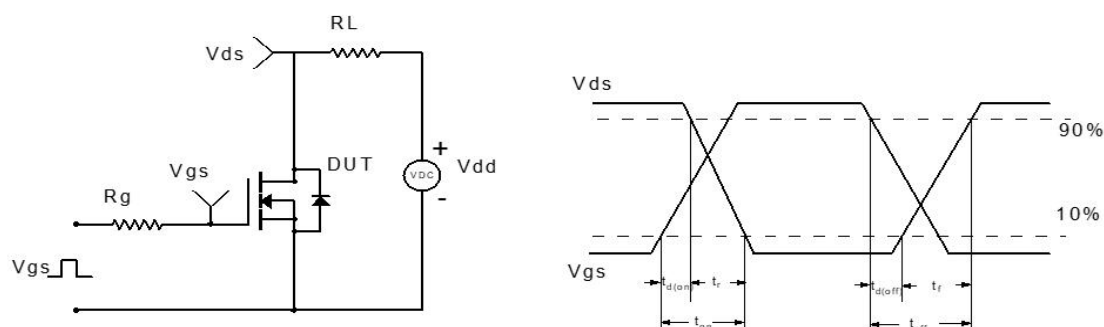


Figure 2: Resistive Switching Test Circuit & Waveform

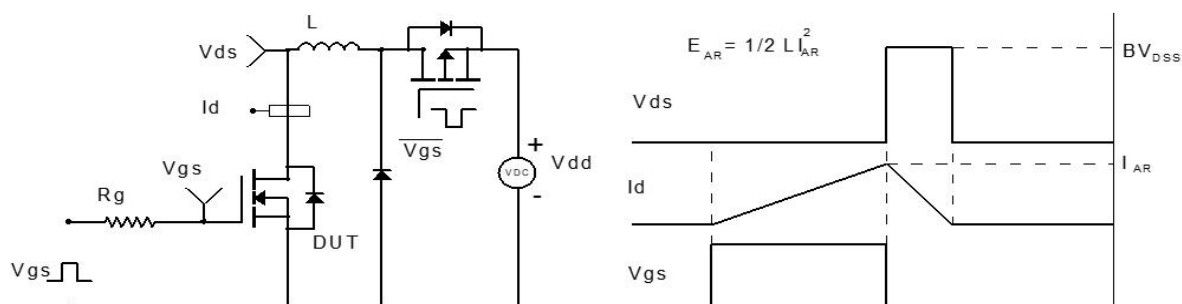


Figure 3: Unclamped Inductive Switching Test Circuit & Waveform

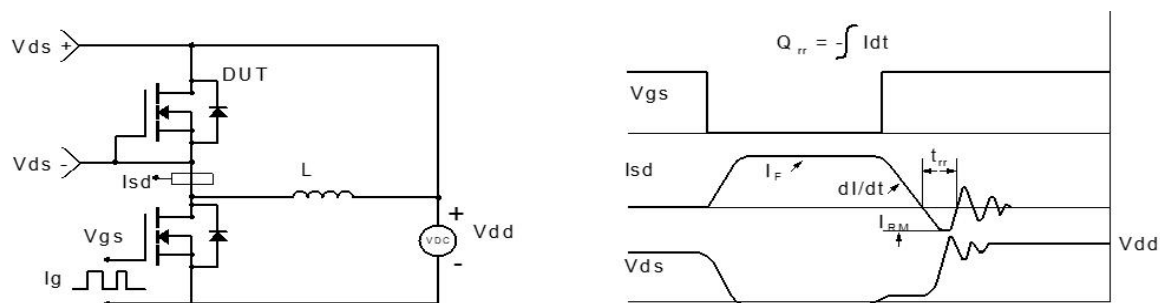
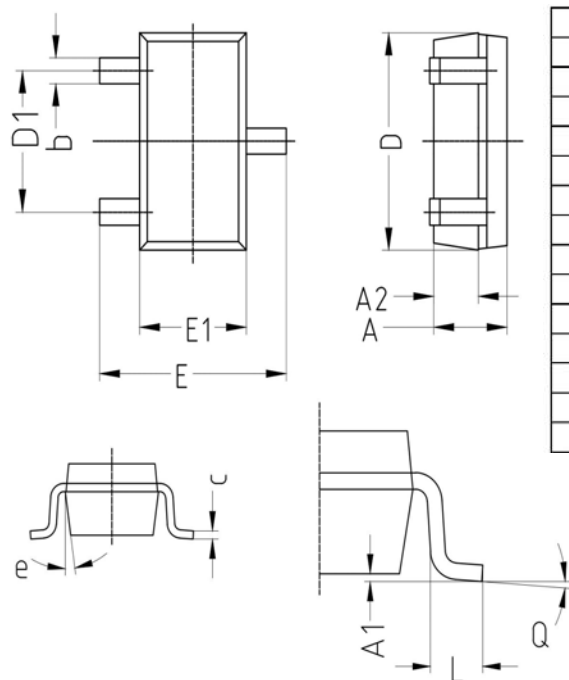


Figure 4: Diode Recovery Test Circuit & Waveform

Package Mechanical Data(SOT-23-3L)



COMMON DIMENSION (MM)			
PKG	SOT-23-3L		
Symbol	MIN	MON	MAX
A	1.080	1.100	1.120
A1	0.010	0.060	0.150
A2	0.640	0.670	0.700
b	0.325	0.350	0.375
c	0.125	0.135	0.150
D	2.92	2.930	2.980
D1	1.875	1.900	1.925
E	2.650	2.800	2.950
E1	1.580	1.600	1.670
L	0.300	0.450	0.600
e	8°		
Q	0°	4°	8°