FEATURES

RDS(ON)≤ 39m Ω @VGS=10V

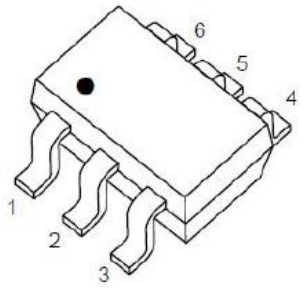
RDS(ON)≤ 52m Ω @VGS=4.5V

APPLICATIONS

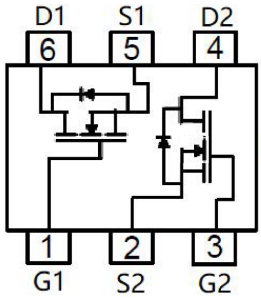
DC - DC Converter

Load Switch

SOT-23-6L



N-CHANNEL MOSFET



Maximum ratings (T_C=25℃ unless otherwise noted)

Symbol	Parameter	Conditions	Min	Max	Unit
V_{DS}	Drain-Source Voltage	T_C = 25 ℃	30	-	V
V_{GS}	Gate-Source Voltage	T_C = 25 ℃	-	± 20	V
I_D*	Drain Current	T_C = 25 ℃, V_{GS} = 10 V	-	3.6	A
I_{DM}*,**,***	Pulsed Drain Current	T_C = 25 ℃, V_{GS} = 10 V	-	15	A
P_{tot}*	Total Power Dissipation	T_C = 25 ℃	-	0.83	W
T_{stg}	Storage Temperature		- 55	150	℃
T_J	Junction Temperature		-	150	℃
$R_{\theta JA}$*	Thermal Resistance- Junction to Ambient		-	150	℃ / W

Notes:

* Surface Mounted on 1 in^2 pad area, t ≤ 10 sec

** Pulse width ≤ 10 μs, duty cycle ≤ 1 %

*** limited by bonding wire

Electrical Characteristics (T_C=25℃ unless otherwise specified)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
Static Characteristics						
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS} = 0 V, I_{DS} = 250 μA	30	-	-	V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} = V_{GS}, I_{DS} = 250 μA	1.0	1.5	2.2	V
I_{DSS}	Drain Leakage Current	V_{DS} = 30 V, V_{GS} = 0 V	-	-	1	μA
I_{GSS}	Gate Leakage Current	V_{GS} = ± 20 V, V_{DS} = 0 V	-	-	± 100	nA
$R_{DS(ON)}$[a]	Channel On-State Resistance	V_{GS} = 10 V, I_D = 3.6 A	-	30	39	mΩ
		V_{GS} = 4.5 V, I_D = 3 A	-	40	52	
Diode Characteristics						
V_{SD}[a]	Diode Forward Voltage	I_{SD} = 3.6 A, V_{GS} = 0 V	-	-	1.2	V
t_{rr}	Reverse Recovery Time	I_{SD} = 3.6 A, dI_{SD} / dt = 100 A / μs	-	7.5	-	ns
Q_{rr}	Reverse Recovery Charge		-	2.5	-	nC
Dynamic Characteristics[b]						
C_{iss}	Input Capacitance	V_{GS} = 0 V, V_{DS} = 15 V Frequency = 1 MHz	-	230	-	pF
C_{oss}	Output Capacitance		-	40	-	
C_{rss}	Reverse Transfer Capacitance		-	17	-	
t_d(on)	Turn-on Delay Time	V_{DS} = 10 V, V_{GEN} = 4.5 V, R_G = 6 Ω, I_{DS} = 3.6 A	-	10	-	ns
t_r	Turn-on Rise Time		-	50	-	
t_d(off)	Turn-off Delay Time		-	10	-	
t_f	Turn-off Fall Time		-	20	-	
Gate Charge Characteristics[b]						
Q_g	Total Gate Charge	V_{GS} = 10 V, V_{DS} = 15 V, I_{DS} = 3.6 A	-	5.0	-	nC
Q_{gs}	Gate-Source Charge		-	1.0	-	
Q_{gd}	Gate-Drain Charge		-	1.3	-	

Notes:

a : Pulse test ; pulse width ≤ 300 μs, duty cycle ≤ 2 %

b : Guaranteed by design, not subject to production testing

Typical Performance Characteristics

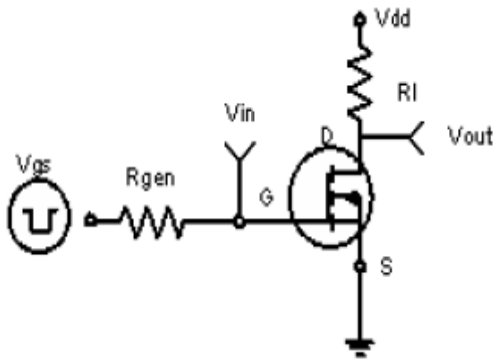


Figure1:Switching Test Circuit

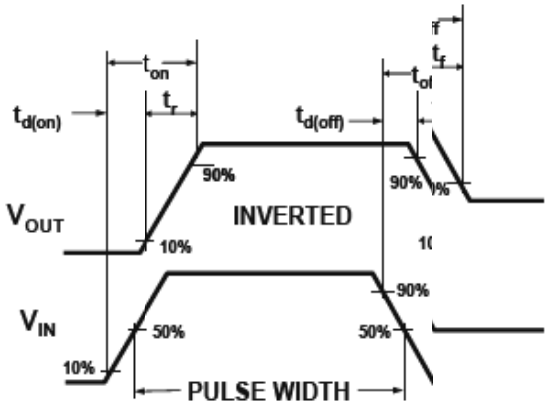
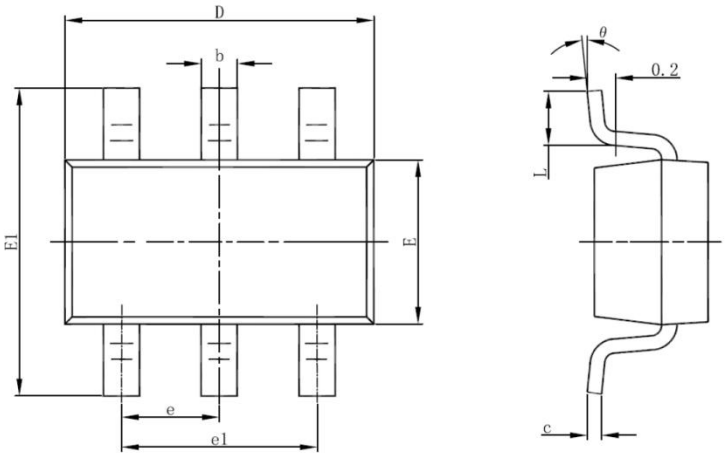
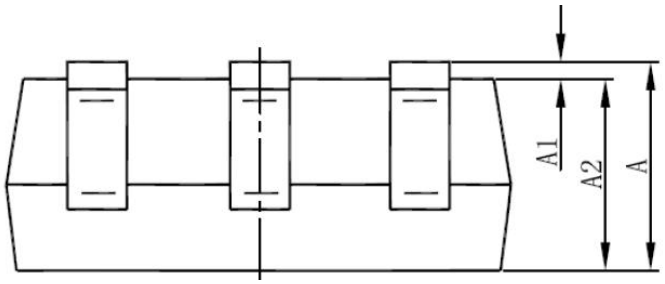


Figure2:Switching Waveforms

SOT-23-6L package





Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°