



Description

<p>Product Summary</p> <ul style="list-style-type: none"> • VDS 20V • ID 2.5A • RDS(ON)(at VGS=4.5V) <58 mohm • RDS(ON)(at VGS=2.5V) <72 mohm 	<p>General Description</p> <ul style="list-style-type: none"> • Trench Power LV MOSFET technology • High Power and current handing capability <p>Applications</p> <ul style="list-style-type: none"> • PWM application • Load switch
<p>Package</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div data-bbox="268 786 475 972"> <p style="text-align: center;">SOT-23</p> </div> <div data-bbox="975 730 1150 994"> <p style="text-align: center;">Schematic Diagram</p> </div> </div>	

Absolute Maximum Ratings (TA=25°C unless otherwise noted)

Parameter		Symbol	Limit	Unit
Drain-source Voltage		VDS	20	V
Gate-source Voltage		VGS	±10	V
Drain Current	TA=25°C @ Steady State	ID	2.5	A
	TA=70°C @ Steady State		2.0	
Pulsed Drain Current A		IDM	10	A
Total Power Dissipation @ TA=25°C		PD	0.7	W
Thermal Resistance Junction-to-Ambient @ Steady State B		RθJA	178	°C/W
Junction and Storage Temperature Range		TJ ,TSTG	-55~+150	°C



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

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BVDSS	VGS= 0V, ID=250μA	20			V
Zero Gate Voltage Drain Current	IDSS	VDS=20V, VGS=0V			1	μA
Gate-Body Leakage Current	IGSS	VGS= ±10V, VDS=0V			±100	nA
Gate Threshold Voltage	VGS(th)	VDS= VGS, ID=250μA	0.55	0.75	1.1	V
Static Drain-Source On-Resistance	RDS(ON)	VGS= 4.5V, ID=2.5A		46	58	mΩ
		VGS= 2.5V, ID=2.0A		60	72	
Diode Forward Voltage	VSD	IS=2.5A, VGS=0V			1.2	V
Maximum Body-Diode Continuous Current	IS				2.5	A
Dynamic Parameters						
Input Capacitance	Ciss	VDS=10V, VGS=0V, f=1MHZ		179		pF
Output Capacitance	Coss			21		
Reverse Transfer Capacitance	Crss			27		
Switching Parameters						
Total Gate Charge	Qg	VGS=4.5V, VDS=10V, ID=2.5A		3.3		nC
Gate Source Charge	Qgs			0.8		
Gate Drain Charge	Qgd			0.7		
Turn-on Delay Time	tD(on)	VGS=4.5V, VDD=10V, RL=1.5Ω, RGEN=3Ω		7.0		ns
Turn-on Rise Time	tr			54		
Turn-off Delay Time	tD(off)			15		
Turn-off Fall Time	tf			53		

A. Pulse Test: Pulse Width ≤ 300us, Duty cycle ≤ 2%.

B. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch.



Typical Performance Characteristics

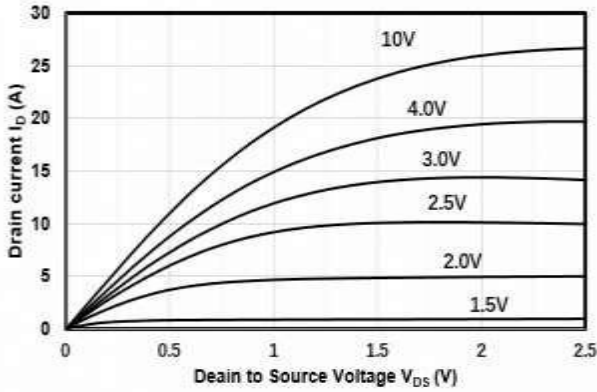


Figure1. Output Characteristics

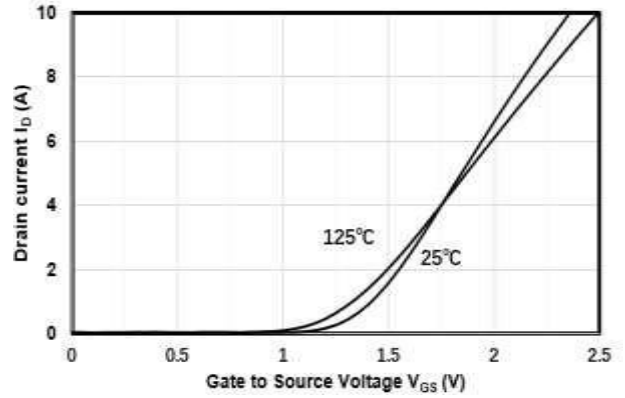


Figure2. Transfer Characteristics

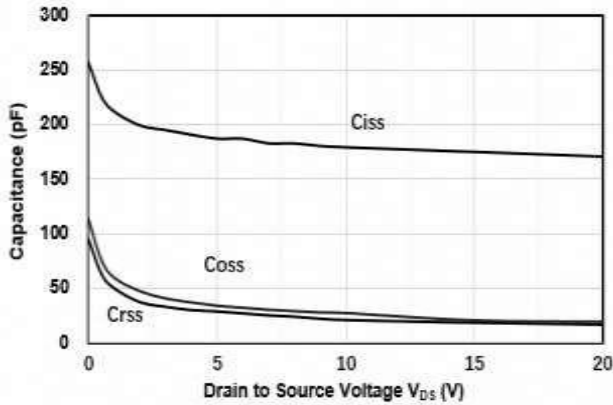


Figure3. Capacitance Characteristics

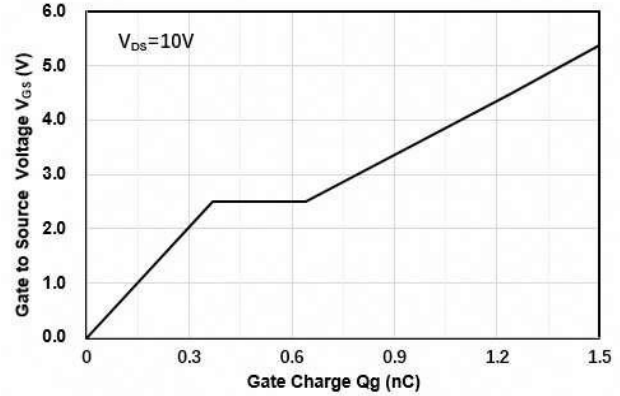


Figure4. Gate Charge

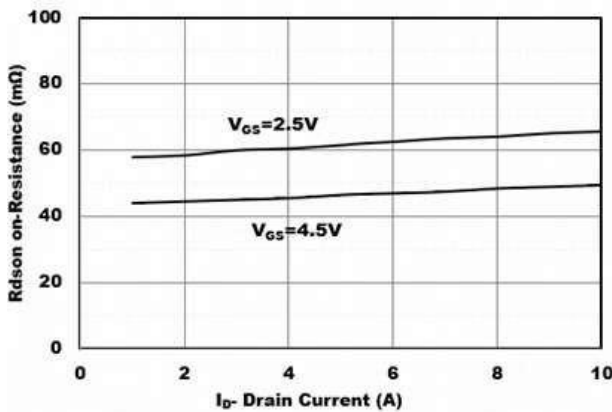


Figure5. Drain-Source on Resistance

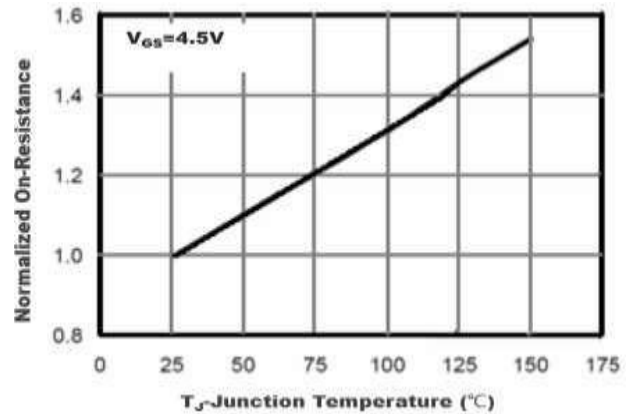


Figure6. Drain-Source on Resistance

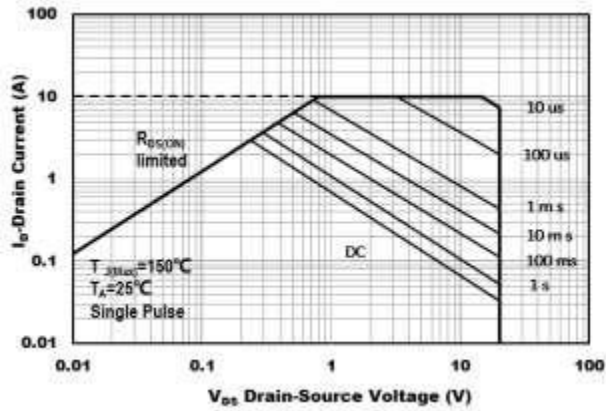


Figure7. Safe Operation Area

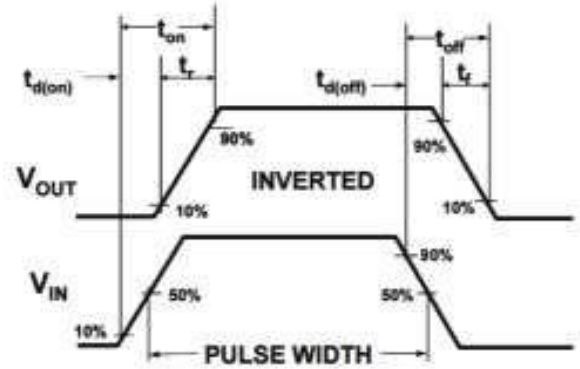
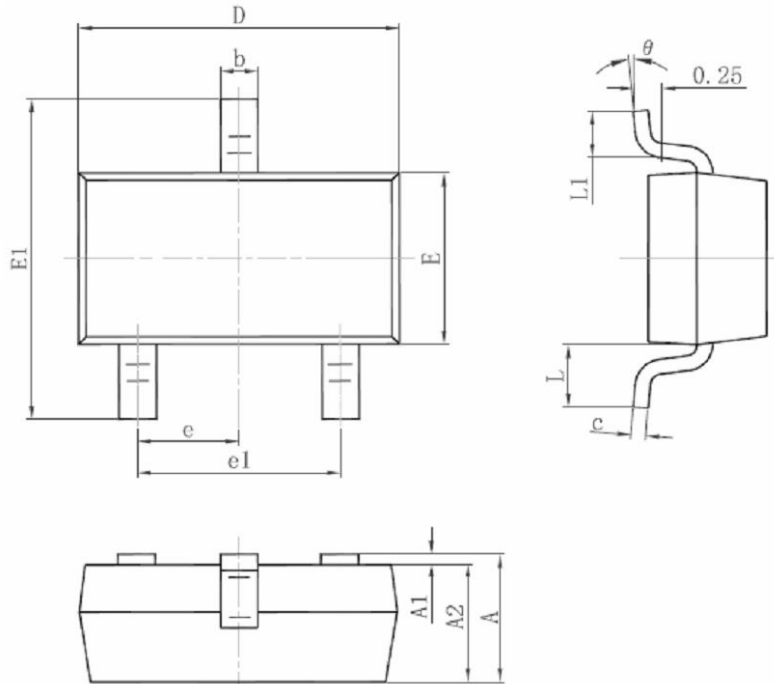


Figure8. Switching wave



Package Information.

➤ SOT23-3(小)



符号	毫米		英寸	
	最小	最大	最小	最大
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°