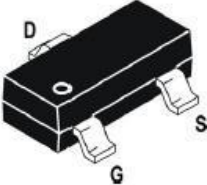
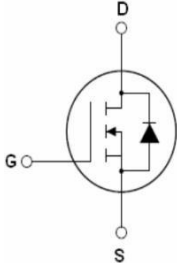


Description

<p><b>Product Summary</b></p> <ul style="list-style-type: none"> <li>• VDS 20V</li> <li>• ID 3.2A</li> <li>• RDS(ON)( at VGS=4.5V) &lt;52mohm</li> <li>• RDS(ON)( at VGS=2.5V) &lt;68 mohm</li> </ul>	<p><b>General Description</b></p> <ul style="list-style-type: none"> <li>• Trench Power LV MOSFET technology</li> <li>• High Power and current handing capability</li> </ul> <p><b>Applications</b></p> <ul style="list-style-type: none"> <li>• PWM application</li> <li>• Load switch</li> </ul>
<p><b>Package</b></p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div data-bbox="268 790 475 1041" style="text-align: center;">  <p>SOT-23</p> </div> <div data-bbox="976 734 1201 1041" style="text-align: center;">  <p>Schematic Diagram</p> </div> </div>	

**Absolute Maximum Ratings** (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-source Voltage	VDS	20	V
Gate-source Voltage	VGS	±12	V
Drain Current	ID	TA=25°C @ Steady State	3.2
		TA=70°C @ Steady State	2.3
Pulsed Drain Current A	IDM	12	A
Total Power Dissipation @ TA=25°C	PD	0.84	W
Thermal Resistance Junction-to-Ambient @ Steady State B	RθJA	167	°C/W
Junction and Storage Temperature Range	TJ ,TSTG	-55~+150	°C

**Electrical Characteristics** ( $T_J=25^{\circ}\text{C}$  unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BVDSS	VGS= 0V, ID=250 $\mu$ A	20			V
Zero Gate Voltage Drain Current	IDSS	VDS=20V, VGS=0V			1	$\mu$ A
Gate-Body Leakage Current	IGSS	VGS= $\pm$ 12V, VDS=0V			$\pm$ 100	nA
Gate Threshold Voltage	VGS(th)	VDS= VGS, ID=250 $\mu$ A	0.45	0.65	1.0	V
Static Drain-Source On-Resistance	RDS(ON)	VGS= 4.5V, ID=2.5A		39	52	m $\Omega$
		VGS= 2.5V, ID=2.0A		46	68	
Diode Forward Voltage	VSD	IS=2.5A, VGS=0V			1.2	V
Maximum Body-Diode Continuous Current	IS				3.2	A
Dynamic Parameters						
Input Capacitance	Ciss	VDS=10V, VGS=0V, f=1MHZ		182		pF
Output Capacitance	Coss			22		
Reverse Transfer Capacitance	Crss			29		
Switching Parameters						
Total Gate Charge	Qg	VGS=4.5V, VDS=10V, ID=2.5A		3.5		nC
Gate Source Charge	Qgs			0.84		
Gate Drain Charge	Qgd			0.75		
Turn-on Delay Time	tD(on)	VGS=4.5V, VDD=10V, RL=1.5 $\Omega$ , RGEN=3 $\Omega$		7.4		ns
Turn-on Rise Time	tr			56		
Turn-off Delay Time	tD(off)			17		
Turn-off Fall Time	tf			55		

A. Pulse Test: Pulse Width  $\leq$  300 $\mu$ s, Duty cycle  $\leq$  2%.

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

Typical Performance Characteristics

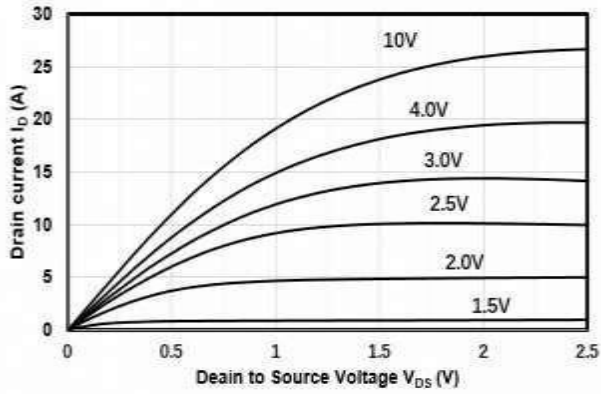


Figure1. Output Characteristics

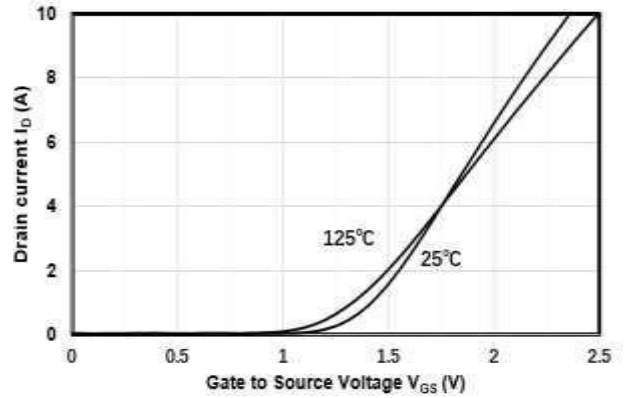


Figure2. Transfer Characteristics

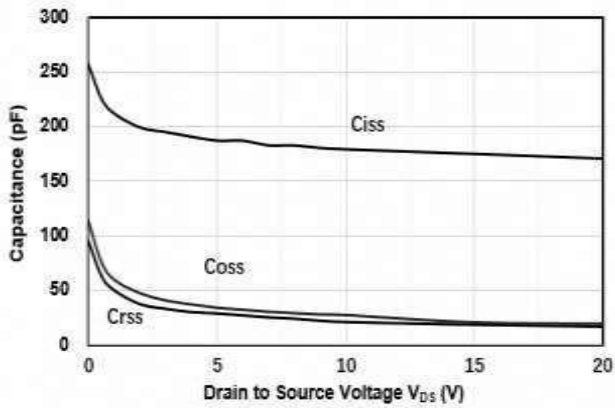


Figure3. Capacitance Characteristics

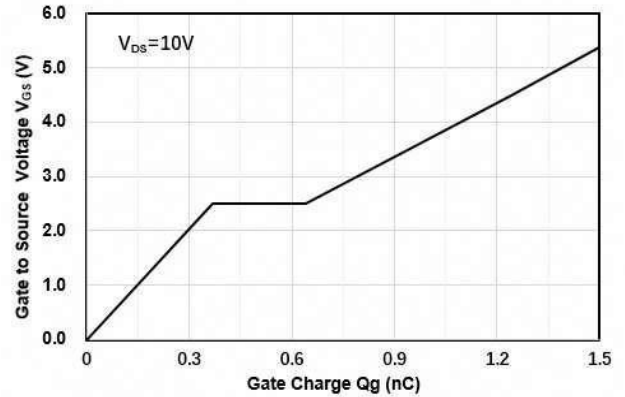


Figure4. Gate Charge

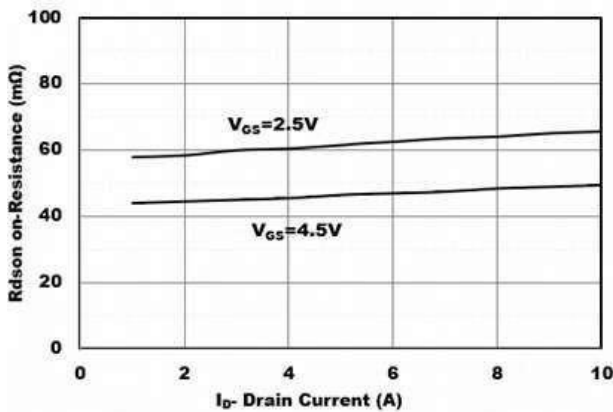


Figure5. Drain-Source on Resistance

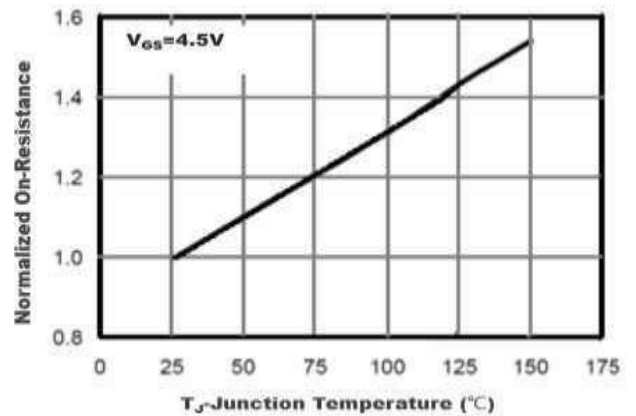


Figure6. Drain-Source on Resistance

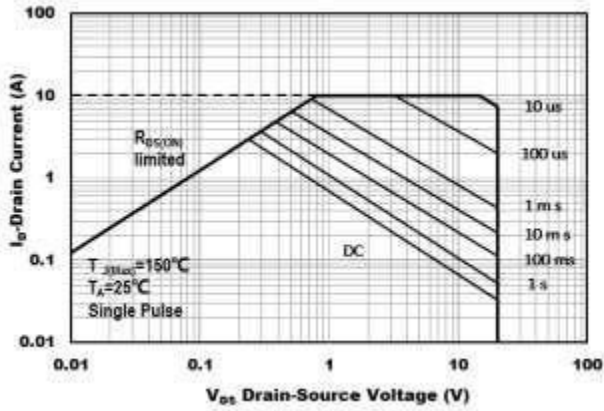


Figure7. Safe Operation Area

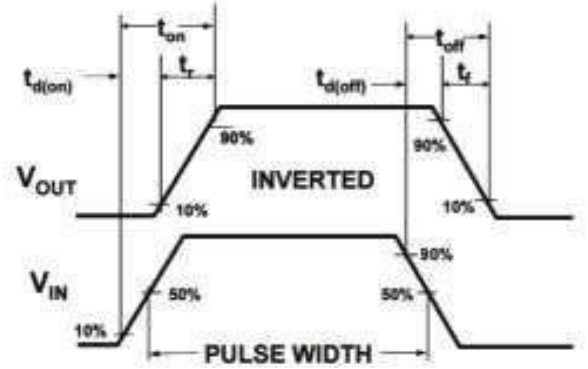
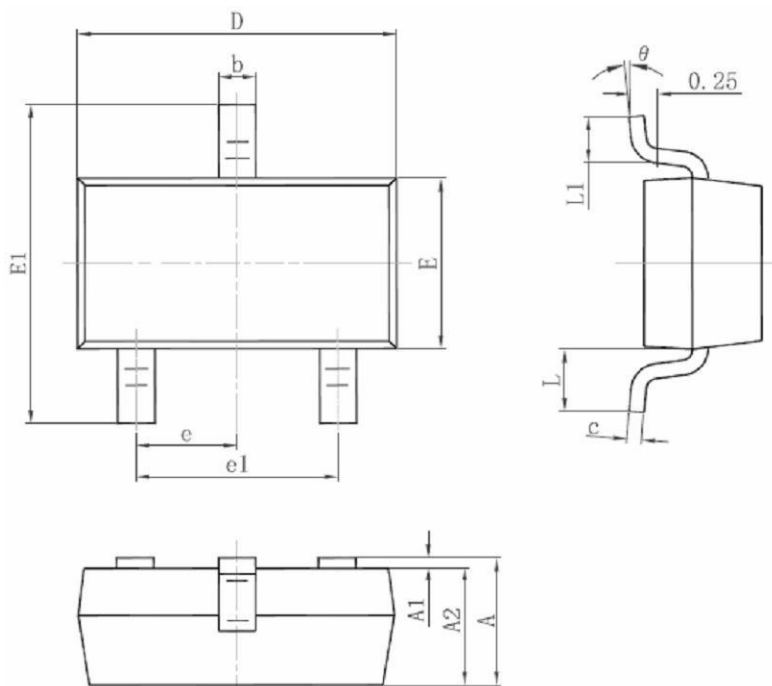


Figure8. Switching wave

**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
$\theta$	0°	8°	0°	8°