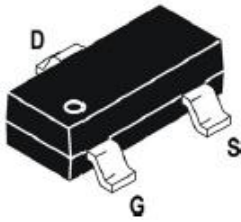




Description

<p>Product Summary</p> <ul style="list-style-type: none"> • VDS 30V • ID 5.6A • RDS(ON)(at VGS=10V) <27 mohm • RDS(ON)(at VGS=4.5V) <33 mohm • RDS(ON)(at VGS=2.5V) <51 mohm <p>General Description</p> <ul style="list-style-type: none"> • Trench Power LV MOSFET technology • High density cell design for low RDS(ON) • High Speed switching 	<p>Application</p> <ul style="list-style-type: none"> • PWM Applications • Load Switch • Power Management
--	---

Package



SOT-23



Schematic Diagram

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

Symbol	Parameter	Limit	Unit
VDS	Drain-source Voltage	30	V
VGS	Gate-source Voltage	±12	V
ID	Drain Current	TA=25°C @ Steady State	5.6
		TA=70°C @ Steady State	4.5
IDM	Pulsed Drain Current ^A	23	A
PD	Total Power Dissipation @ TA=25°C	1.2	W
RθJA	Thermal Resistance Junction-to-Ambient @ Steady State ^B	104	°C/ W
TJ ,TSTG	Junction and Storage Temperature Range	-55~+150	°C



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

Symbol	Parameter	Conditions	Min	Typ	Max	Units
Static Parameter						
BVDSS	Drain-Source Breakdown Voltage	V _{GS} = 0V, I _D =250μA	30			V
IDSS	Zero Gate Voltage Drain Current	V _{DS} =30V, V _{GS} =0V			1	μA
IGSS	Gate-Body Leakage Current	V _{GS} = ±12V, V _{DS} =0V			±100	nA
VGS(th)	Gate Threshold Voltage	V _{DS} = V _{GS} , I _D =250μA	0.65	0.9	1.5	V
RDS(ON)	Static Drain-Source On-Resistance	V _{GS} =10V, I _D =5.6A		21	27	mΩ
		V _{GS} = 4.5V, I _D =5.0A		25	33	
		V _{GS} =2.5V, I _D =3.0A		33	51	
VSD	Diode Forward Voltage	I _S =5.6A, V _{GS} =0V		0.8	1.2	V
IS	Maximum Body-Diode Continuous Current				5.6	A
Dynamic Parameters						
Ciss	Input Capacitance	V _{DS} =15V, V _{GS} =0V, f=1MHZ		535		pF
Coss	Output Capacitance			130		
Crss	Reverse Transfer Capacitance			36		
Switching Parameters						
Qg	Total Gate Charge	V _{GS} =4.5V, V _{DS} =15V, I _D =5.6A		4.8		nC
Qgs	Gate Source Charge			1.2		
Qgd	Gate Drain Charge			1.7		
tD(on)	Turn-on Delay Time	V _{GS} =4.5V, V _{DD} =15V, I _D =1A, R _{GEN} =2.8Ω		12		ns
tr	Turn-on Rise Time			52		
tD(off)	Turn-off Delay Time			17		
tf	Turn-off Fall Time			10		

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

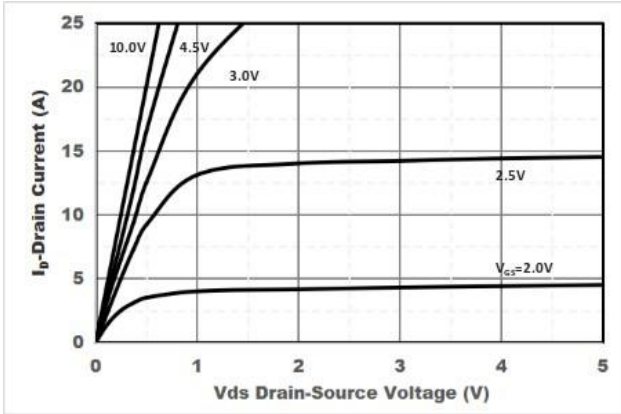


Figure1. Output Characteristics

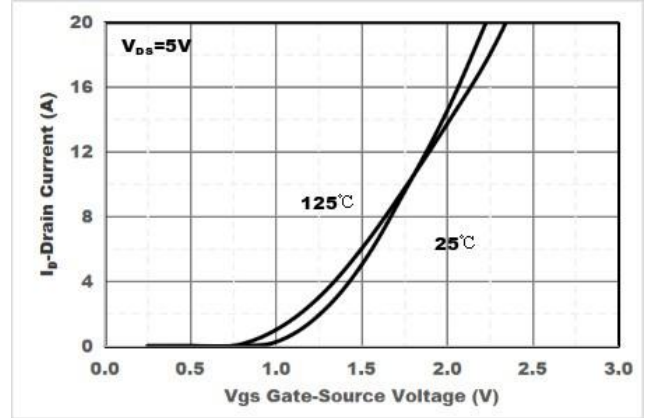


Figure2. Transfer Characteristics

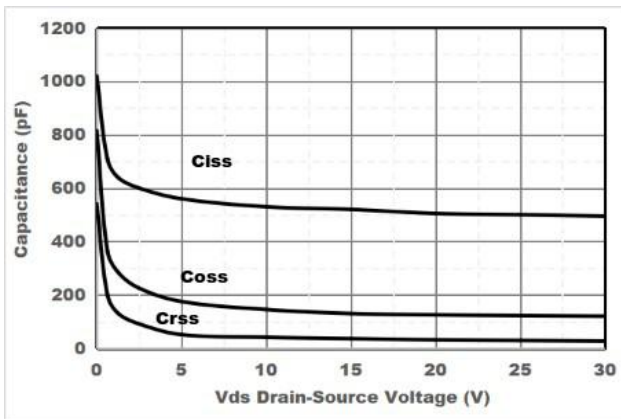


Figure3. Capacitance Characteristics

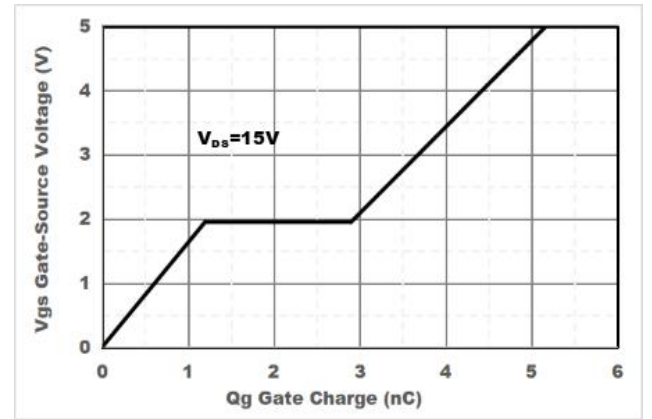


Figure4. Gate Charge

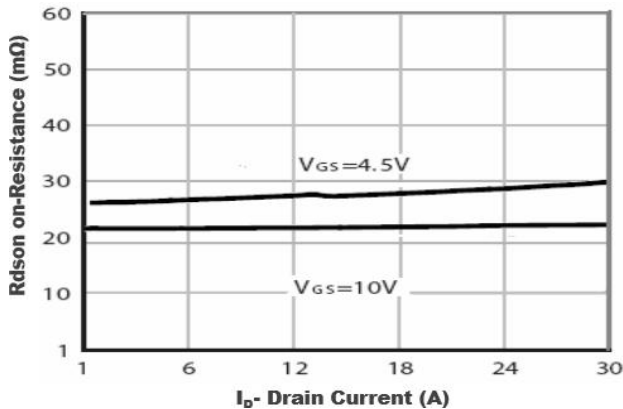


Figure5. Drain-Source on Resistance

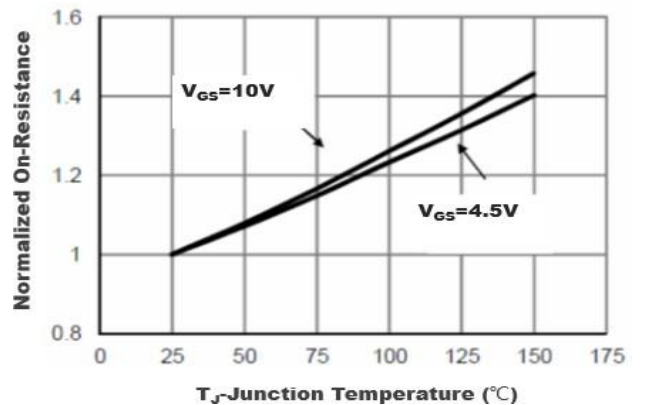


Figure6. Drain-Source on Resistance

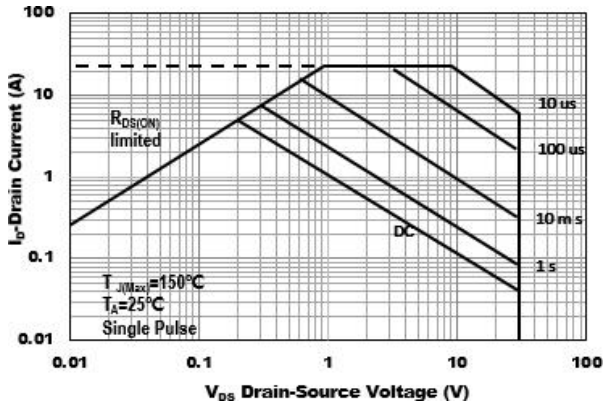


Figure7. Safe Operation Area

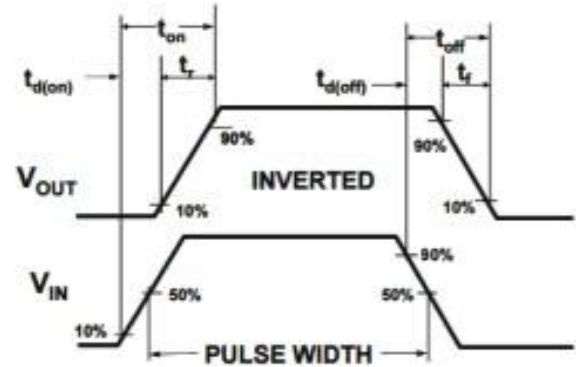
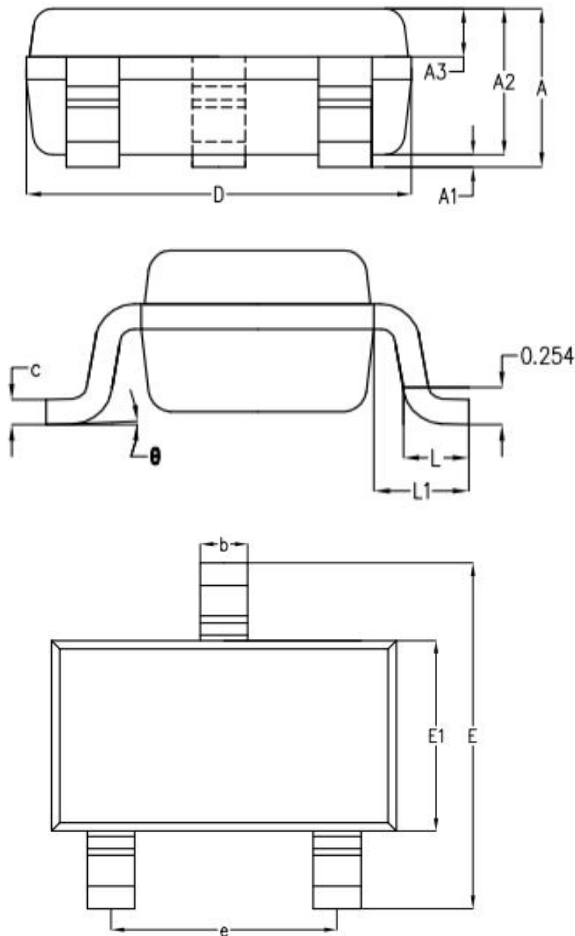


Figure8. Switching wave

Package Information.

➤ SOT23-3(大)



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	-	1.19	1.24
A1	-	0.05	0.09
A2	1.05	1.10	1.15
A3	0.31	0.36	0.41
b	0.35	0.40	0.45
c	0.12	0.17	0.22
D	2.85	2.90	2.95
E	2.80	2.90	3.00
E1	1.55	1.60	1.65
e	1.90BSC		
L	0.37	0.45	0.53
L1	0.65BSC		
θ	0°	2°	8°