

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-30V	43mΩ@-10V	-5A
	65mΩ@-4.5V	

Feature

- TrenchFET Power MOSFET
- Excellent $R_{DS(on)}$ and Low Gate Charge

Application

- Load Switch for Portable Devices
- Battery Switch

MARKING:

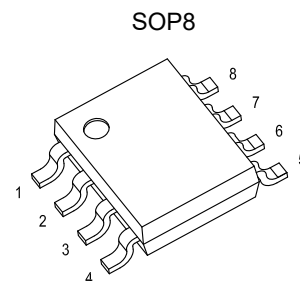


Q4953 = Device code

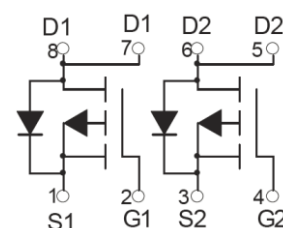
YY = Date Code

Solid dot = Pin1 indicator

Solid dot = Green molding compound device, If none, the normal device.



Schematic diagram



ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current($t \leq 10s$)	I_D	-5	A
Power Dissipation($t \leq 10s$)	P_D	1.25	W
Thermal Resistance from Junction to Ambient($t \leq 10s$)	$R_{\theta JA}$	100	$^{\circ}\text{C/W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$

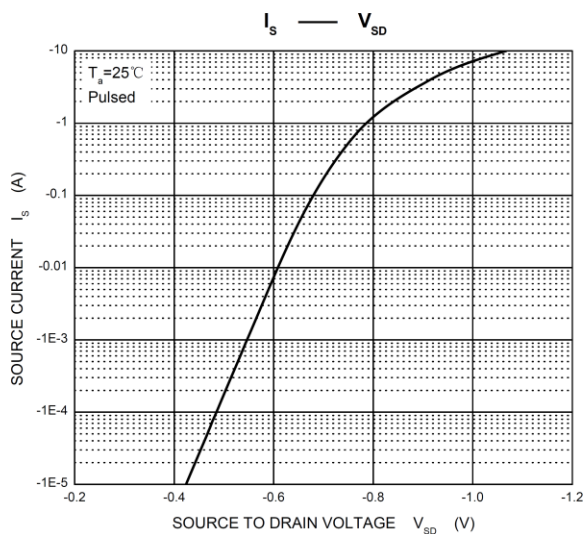
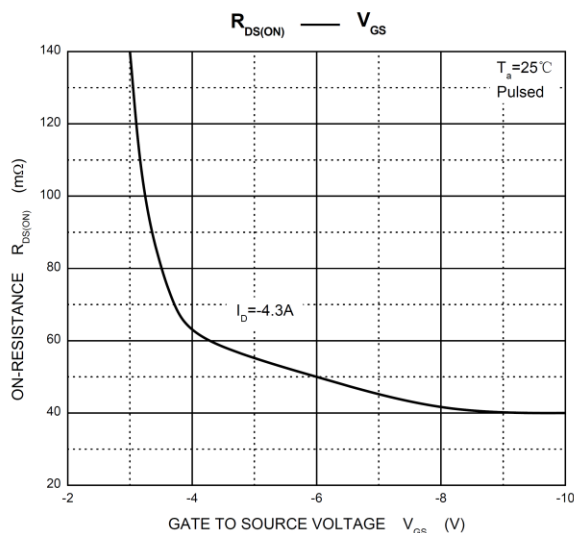
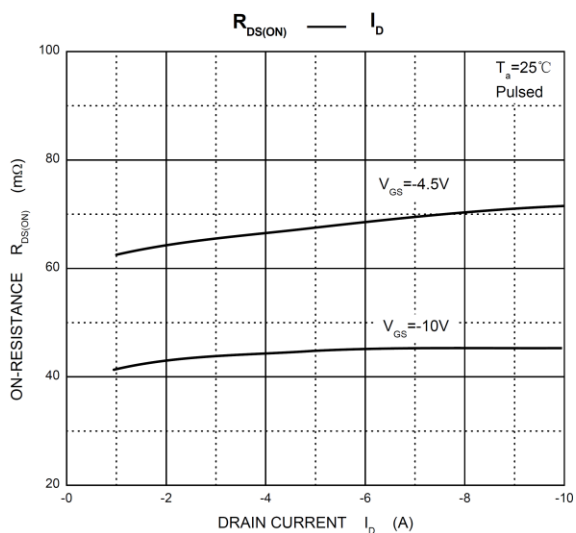
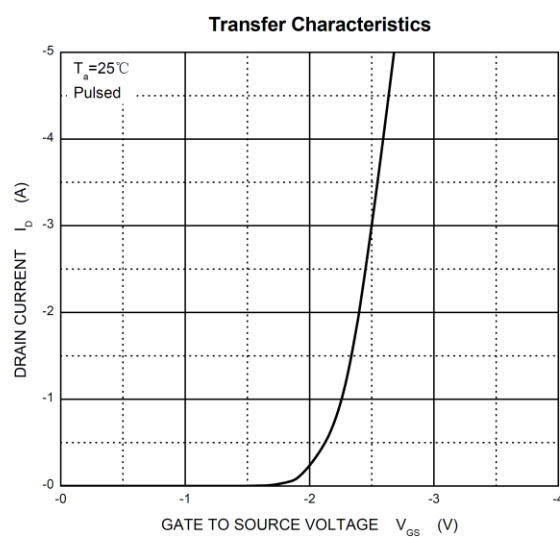
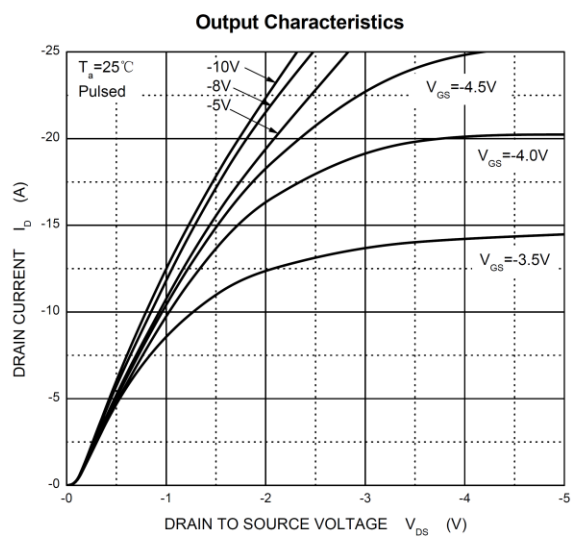
MOSFET ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise noted)

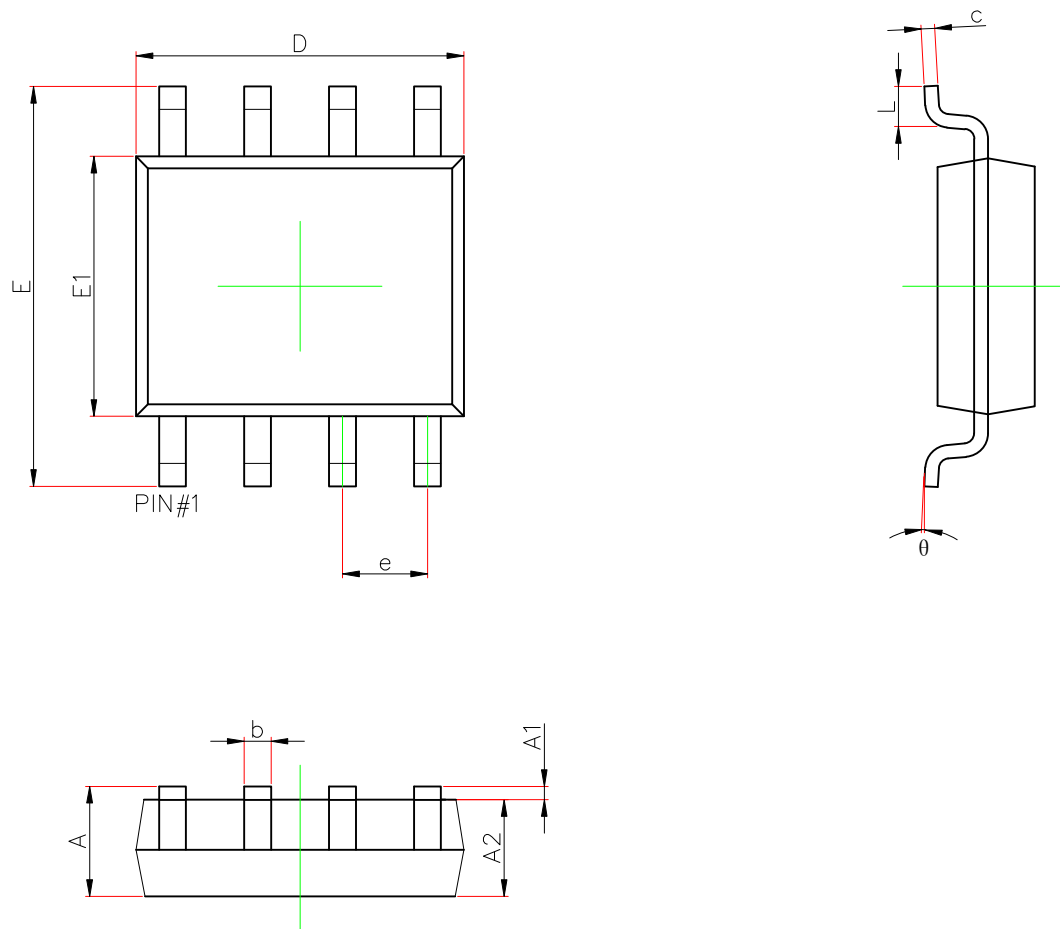
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =-250μA	-30			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =-30V,V _{GS} = 0V			-1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±20V, V _{DS} = 0V			±0.1	μA
Gate threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-1.0	-1.5	-2.0	V
Drain-source on-resistance ^a	R _{DS(on)}	V _{GS} =-10V, I _D =-4.9A		43	60	mΩ
		V _{GS} =-4.5V, I _D =-3.7A		65	90	
Forward tranconductance ^(a)	g _{FS}	V _{DS} =-10V, I _D =4.9A	6	7.6		S
Diode forward voltage ^a	V _{SD}	I _S =-1.7A,V _{GS} =0V			-1.2	V
Dynamic characteristics ^b						
Input Capacitance	C _{iss}	V _{DS} =-15V,V _{GS} =0V,f =1MHz		506		pF
Output Capacitance	C _{oss}			70		
Reverse Transfer Capacitance	C _{rss}			58		
Switching Characteristics						
Total gate charge	Q _g	V _{DS} =-15V,V _{GS} =-10V,I _D =-4.9A			25	nC
Gate-source charge	Q _{gs}			4		
Gate-drain charge	Q _{gd}			2		
Turn-on delay time	t _{d(on)}	V _{DD} =-15V, R _L =15Ω, I _D =-1A, V _{GNE} =-10V, RG=6Ω			15	ns
Turn-on rise time	t _r				20	
Turn-off delay time	t _{d(off)}				80	
Turn-off fall time	t _f				40	

Notes:

1. Pulse test; pulse width ≤ 300μs, duty cycle ≤ 2%.
2. Guaranteed by design, not subject to production testing.

Typical Electrical and Thermal Characteristics



SOP8 Package Information


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.156	0.250	0.006	0.010
D	4.700	5.100	0.185	0.201
e	1.270(BSC)		0.050(BSC)	
E	5.800	6.200	0.228	0.244
E1	3.700	4.100	0.146	0.161
L	0.400	1.270	0.016	0.05
θ	0°	8°	0°	8°