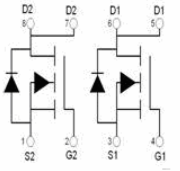
Dual N-Channel MOSFET

DESCRIPTION

The FTK6930 uses advanced trench
te chnology to provide excellent
$R_{DS(ON)}$ and low gate charge.
This device is suitable for use as a load switch
or in PWM applications.

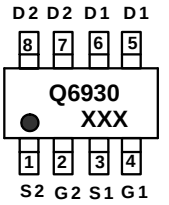
FEATURES

VDS (V) = 30V
ID = 5.5A (VGS = 10V)
RDS(ON) < 30mΩ (VGS = 10V)
RDS(ON) < 42mΩ (VGS = 4.5V)

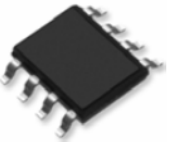


N-channel N-channel

Schematic diagram



Marking and pin Assignment



SOP-8 top view

Maximum ratings (T_a=25℃ 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 ≤10s)	I_D	5.5	A
Pulsed Drain Current (note 2)	I_{DM}	30	A
Power Dissipation	P_D	1.4	W
Thermal Resistance from Junction to Ambient (t ≤10s) (note 1)	$R_{\theta JA}$	89	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~+150	℃

Electrical characteristics (T_a=25℃ unless otherwise noted)

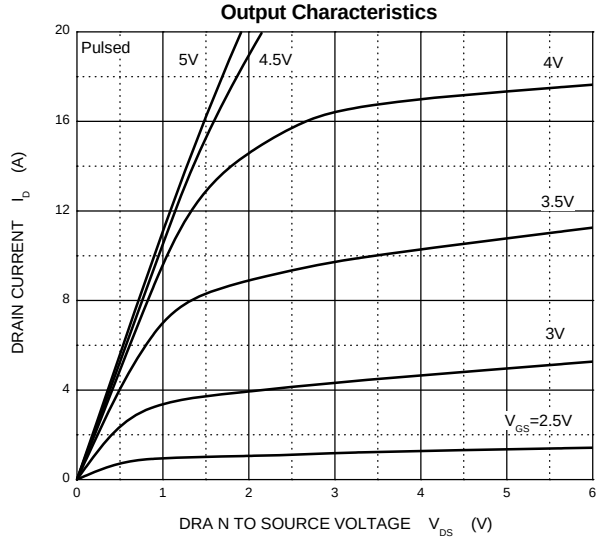
Parameter	Symbol	Test Condition	Min	Typ	Max	Units
STATIC PARAMETERS						
Drain-source breakdown voltage	$V_{(BR)\ DSS}$	V_{GS} = 0V, I_D =250μA	30			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =30V,V_{GS} = 0V			1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±100	nA
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	1		3	V
Drain-source on-resistance (note 1)	$R_{DS(on)}$	V_{GS} =10V, I_D =5.8A			30	mΩ
		V_{GS} =4.5V, I_D =4.8A			42	mΩ
Forward tranconductance (note 1)	g_{FS}	V_{DS} =5V, I_D =5.8A	5			S
Diode forward voltage	V_{SD}	I_S=1A			1	V
DYNAMIC PARAMETERS (note 2)						
Input capacitance	C_{iss}	V_{DS} =15V,V_{GS} =0V,f =1MHz			820	pF
Output capacitance	C_{oss}			118		pF
Reverse transfer capacitance	C_{rss}			85		pF
Gate resistance	R_g	V_{DS} =0V,V_{GS} =0V,f =1MHz			1.5	Ω
SWITCHING PARAMETERS(note 2)						
Turn-on delay time	$t_{d(on)}$	V_{GS}=10V,V_{DS}=15V, R_L=2.6Ω,R_{GEN}=3Ω			6.5	ns
Turn-on rise time	t_r			3.1		ns
Turn-off delay time	$t_{d(off)}$			15.1		ns
Turn-off fall time	t_f			2.7		ns

Note :

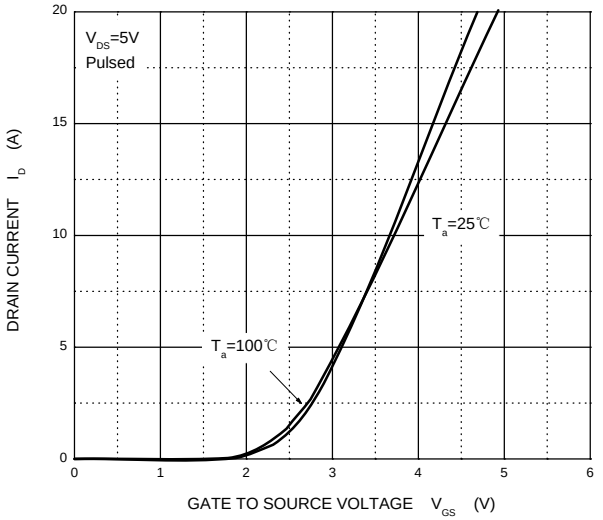
1. Pulse Test : Pulse width ≤ 300μs, duty cycle ≤ 0.5%.
2. These parameters have no way to verify.

TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS

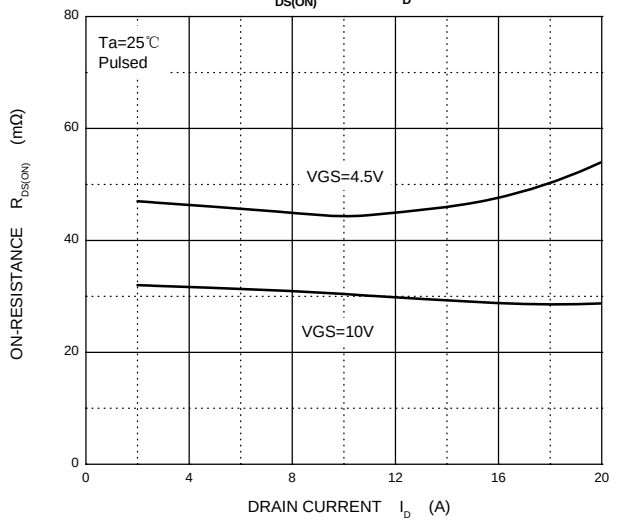
Output Characteristics



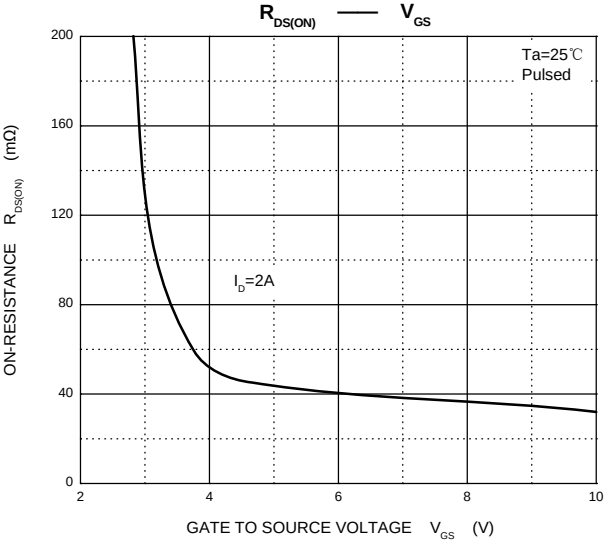
Transfer Characteristics



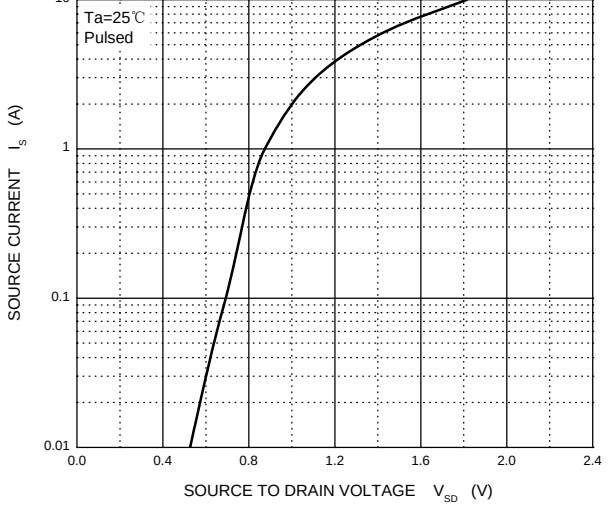
RDS(ON) — ID



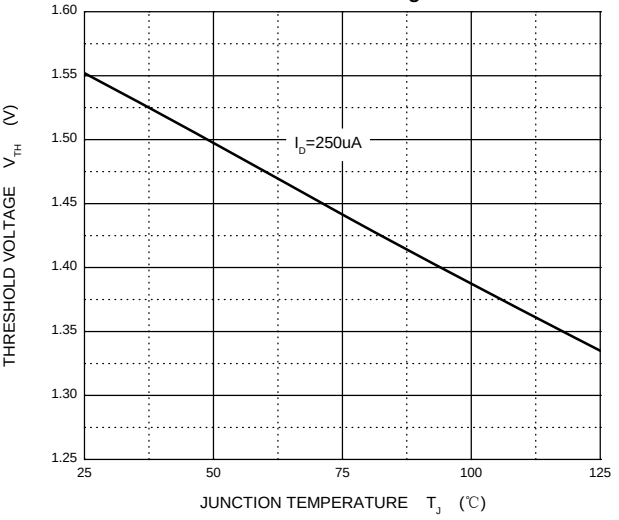
RDS(ON) — VGS



IS — VSD

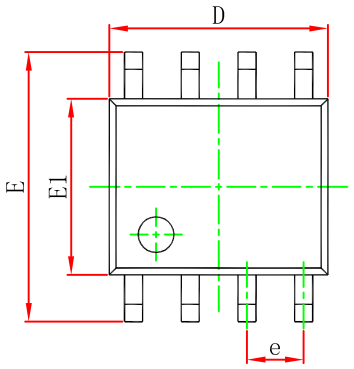


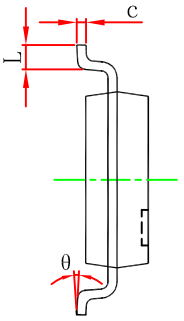
Threshold Voltage

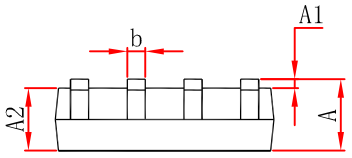


SOP-8 PACKAGE INFORMATION

SOP8 Package Outline Dimensions

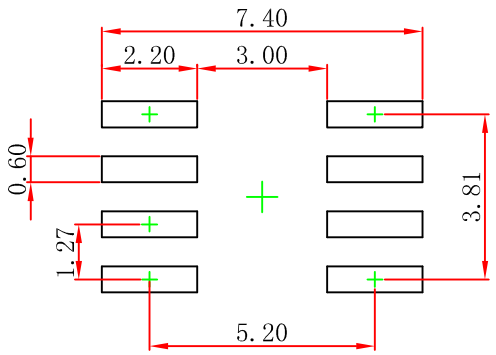






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	**Max**	**Min**	**Max**
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.007	0.010
D	4.800	5.000	0.189	0.197
e	1.270（BSC）		0.050（BSC）	
E	5.800	6.200	0.228	0.244
E1	3.800	4.000	0.150	0.157
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°

SOP8 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.