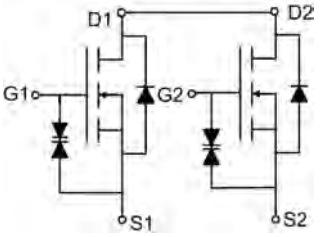
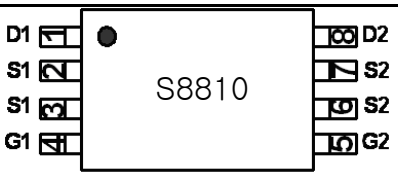
DESCRIPTION

The FTK8810 uses advanced trench technology to provide excellent $R_{DS(ON)}$, low gate charge and operation with gate voltages as low as 1.8V.



Schematic diagram



Marking and pin Assignment

TSSOP-8 top view

GENERAL FEATURES

- V_{DS} = 20V,I_D = 7A
  $R_{DS(ON)}$ < 35mΩ @ V_{GS}=1.8V
  $R_{DS(ON)}$ < 26mΩ @ V_{GS}=2.5V
  $R_{DS(ON)}$ < 20mΩ @ V_{GS}=10V

  ESD Rating：2000V HBM
- High Power and current handing capability
- Lead free product is acquired
- Surface Mount Package

Application

- Battery protection
- Load switch
- Power management

PACKAGE MARKING AND ORDERING INFORMATION

Device Marking	Device	Device Package	Reel Size	Tape width	Quantity
S8810	FTK8810	TSSOP-8	Ø330mm	12mm	3000 units

ABSOLUTE MAXIMUM RATINGS(TA=25℃unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	±12	V
Drain Current-Continuous@ Current-Pulsed (Note 1)	I_D	7	A
	I_{DM}	30	A
Maximum Power Dissipation	P_D	1.5	W
Operating Junction and Storage Temperature Range	T_J,T_{STG}	-55 To 150	℃

THERMAL CHARACTERISTICS

Thermal Resistance,Junction-to-Ambient (Note 2)	$R_{\theta JA}$	83	℃/W

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise noted)

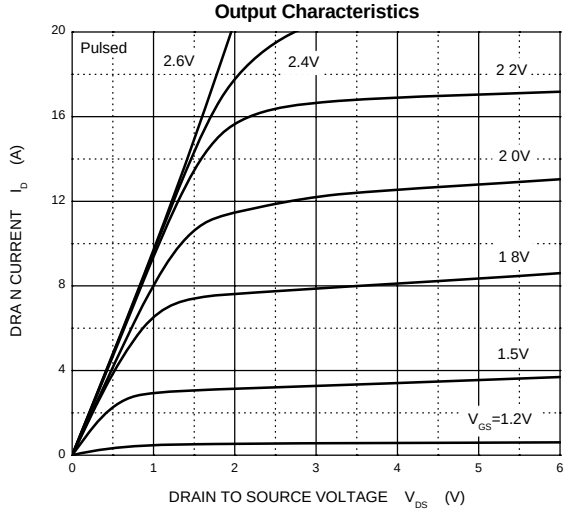
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC PARAMETERS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} =0V, I_D =250μA	20			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =16V,V_{GS} =0V			1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±4.5V,V_{DS} =0V			±1	μA
		V_{GS} =±8V, V_{DS} =0V			±10	μA
Gate threshold voltage (note 3)	$V_{GS(h)}$	V_{DS} =V_{GS}, I_D =250μA	0.4		1	V
Drain-source on-resistance (note 3)	$R_{DS(on)}$	V_{GS} =10V, I_D =7A			20	mΩ
		V_{GS} =2.5V, I_D =5.5A			26	mΩ
		V_{GS} =1.8V, I_D =5A			35	mΩ
Forward tranconductance (note 3)	g_{FS}	V_{DS} =5V, I_D =7A	9			S
Diode forward voltage(note 3)	V_{SD}	I_S=1A, V_{GS} = 0V			1	V
SWITCHING PARAMETERS(note 4)						
Turn-on delay time	$t_{d(on)}$	V_{GS}=5V,V_{DS}=10V, R_L=1.35Ω,R_{GEN}=3Ω		6.5		ns
Turn-on rise time	t_r			12.5		ns
Turn-off delay time	$t_{d(off)}$			51.5		ns
Turn-off fall time	t_f			16		ns
Total Gate Charge	Q_g	V_{DS} =10V,V_{GS} =4.5V,I_D =7A		20		nC
Gate-Source Charge	Q_{gs}			1		nC
Gate-Drain Charge	Q_{gd}			4		nC

NOTES:

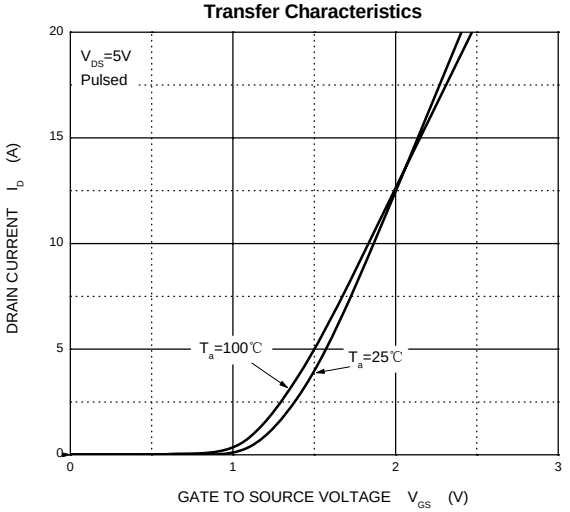
1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, t ≤ 10 sec.
3. Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.
4. Guaranteed by design, not subject to production testing.

Typical Characteristics

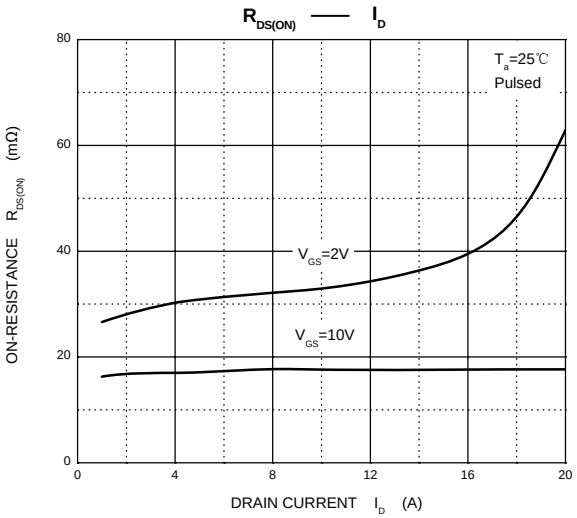
Output Characteristics



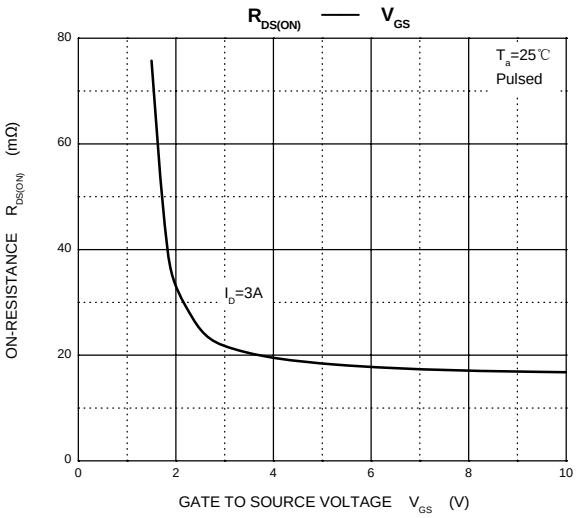
Transfer Characteristics



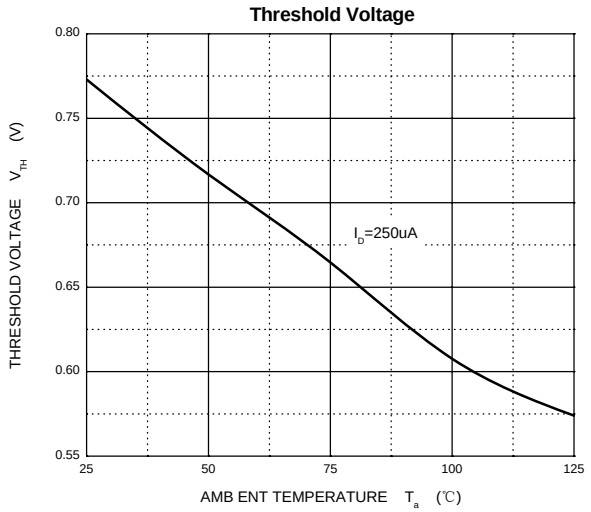
$R_{DS(ON)}$ — I_D



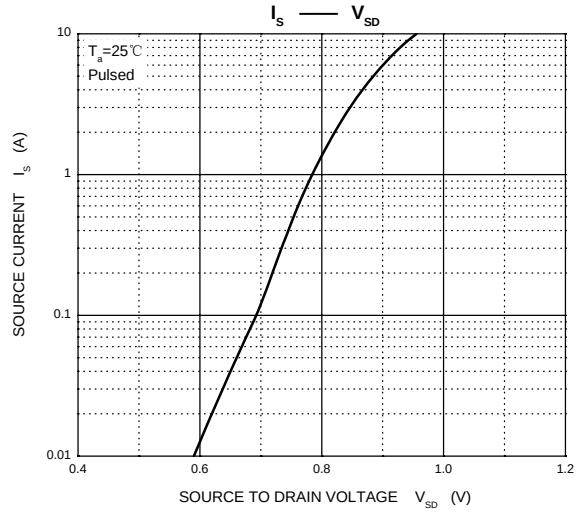
$R_{DS(ON)}$ — V_{GS}



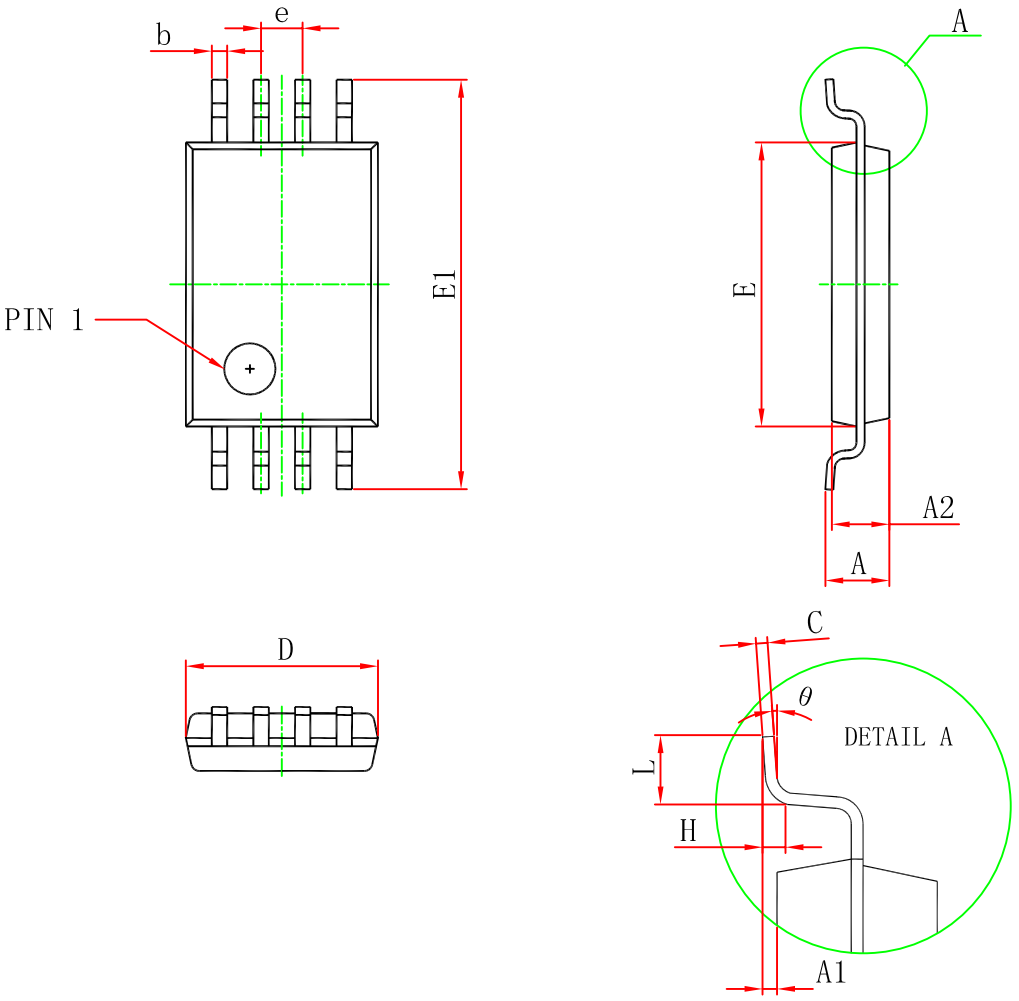
Threshold Voltage



I_S — V_{SD}



TSSOP-8 PACKAGE INFORMATION



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	**Max**	**Min**	**Max**
D	2.900	3.100	0.114	0.122
E	4.300	4.500	0.169	0.177
b	0.190	0.300	0.007	0.012
c	0.090	0.200	0.004	0.008
E1	6.250	6.550	0.246	0.258
A		1.200		0.047
A2	0.800	1.000	0.031	0.039
A1	0.050	0.150	0.002	0.006
e	0.65 (BSC)		0.026(BSC)	
L	0.500	0.700	0.020	0.028
H	0.25(TYP)		0.01(TYP)	
θ	1°	7°	1°	7°