

P-Channel 1.8-V (G-S) MOSFET

FEATURES

- TrenchFET® Power MOSFET: 1.8- V Rated
- Gate- Source ESD Protected: 2000 V
- High- Side Switching
- Low On- Resistance: 1.2Ω
- Low Threshold: 0.8 V (typ)
- Fast Switching Speed: 14 ns

BENEFITS

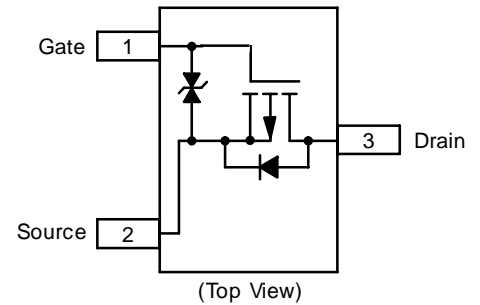
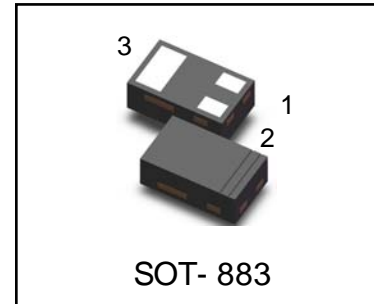
- Ease in Driving Switches
- Low Offset (Error) Voltage
- Low- Voltage Operation
- High- Speed Circuits
- Low Battery Voltage Operation

APPLICATIONS

- Drivers: Relays, Solenoids, Lamps, Hammers, Displays, Memories
- Battery Operated Systems
- Power Supply Converter Circuits
- Load/Power Switching Cell Phones, Pagers

ORDERING INFORMATION

Device	Marking	Shipping
FTK1013SOT883	A1	10000/Tape&Reel



ABSOLUTE MAXIMUM RATINGS (TA=25°C UNLESS OTHERWISE NOTED)

Parameter		Symbol	5 secs	Steady State	Unit
Drain- Source Voltage		V_{DS}	- 20		V
Gate- Source Voltage		V_{GS}	±6		
Continuous Drain Current(TJ=150°C)b	TA = 25°C	I_D	- 400	- 350	mA
	TA = 85C		- 300	- 275	
Pulsed Drain Current e		I_{DM}	- 1000		
Continuous Source Current (diode conduction) b		I_S	- 275	- 250	
Maximum Power Dissipation		P_D	250		mW
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55 to 150		°C
Gate- Source ESD Rating (HBM, Method 3015)		ESD	2000		V

Notes

- d. Pulse width limited by maximum junction temperature.
- e. Surface Mounted on FR4 Board.



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6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Static

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Gate Threshold Voltage (VDS = VGS , ID = -250μA)	VGS(th)	-0.45	-	-1.3	V
Gate-Body Leakage (VDS = 0 V, VGS = ±4.5 V)	IGSS	-	±1.0	±2.0	μA
Zero Gate Voltage Drain Current (VDS = -16V, VGS = 0 V) (VDS = 16V, VGS = 0 V, TJ = 85 °C)	IDSS	-	-0.3	-100	nA μA
On-State Drain Current(Note 1) (VDS = 5 V, VGS = 4.5 V)	ID(on)	-700	-	-	mA
Drain-Source On-State Resistance(Note 1) (VGS = -4.5 V, ID = -350 mA) (VGS = -2.5 V, ID = -300 mA) (VGS = -1.8 V, ID = -10 mA)	RDS(on)		0.8 1.2 1.8	1.2 1.6 2.7	Ω
Forward Transconductance(Note 1) (VDS = -10 V, ID = -250 mA)	gfs		0.4		S
Diode Forward Voltage(Note 1) (IS = -150 mA, VGS = 0 V)	VSD		-0.8	-1.2	V

Dynamic(Note 2)

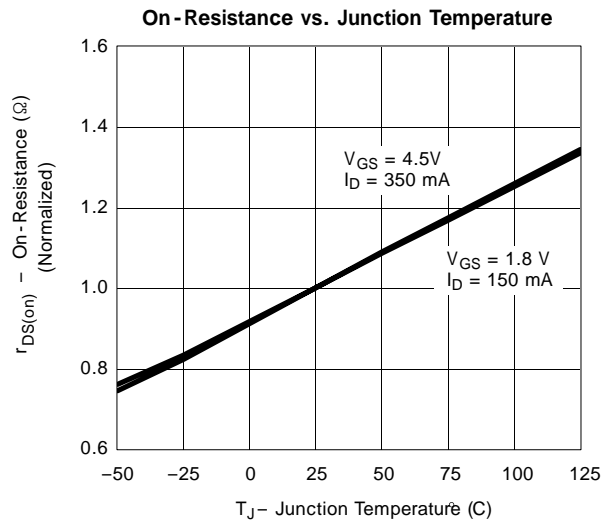
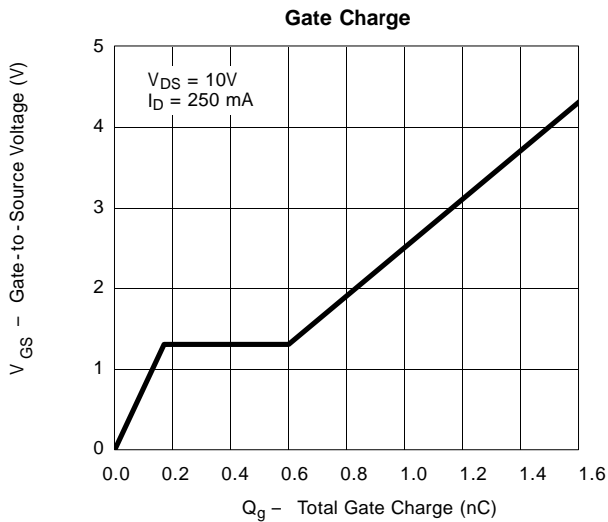
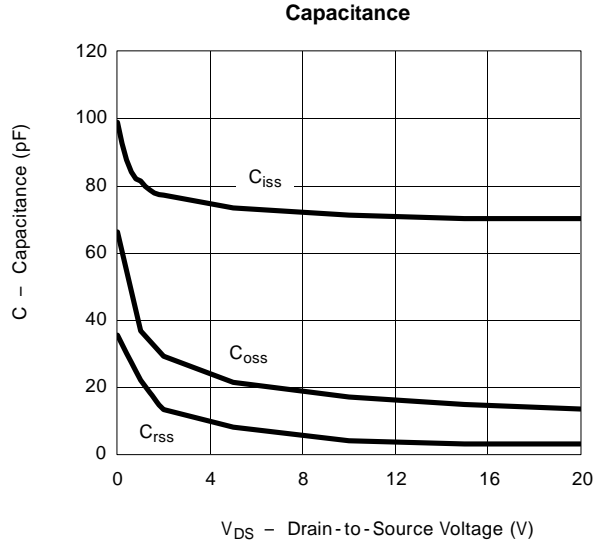
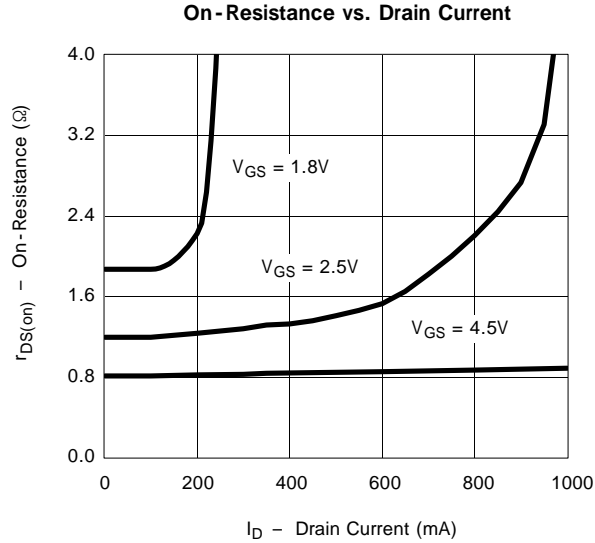
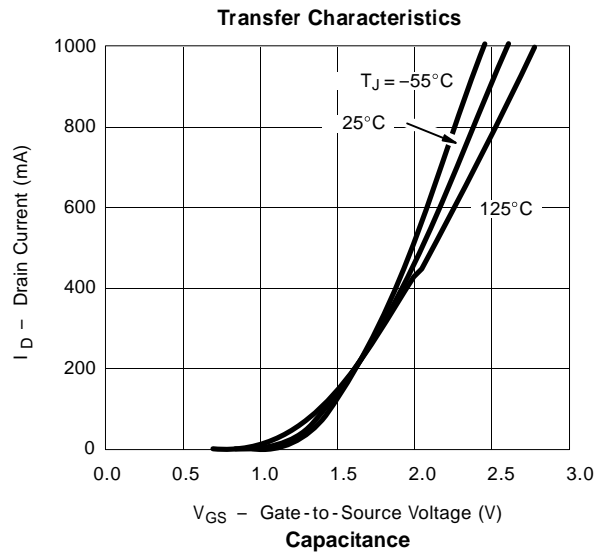
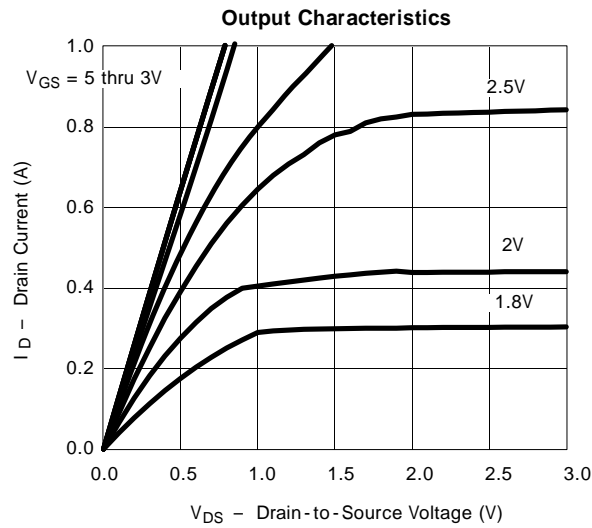
Total Gate Charge	(VDS = -10 V, VGS = -4.5 V, ID = -250 mA)	Qg	1500		pC
Gate-Source Charge		Qgs	150		
Gate-Drain Charge		Qgd	450		
Turn-On Delay Time	(VDD =-10 V, RL = 47Ω ,ID=-200 mA, VGEN=-4.5 V, RG = 10Ω)	td(on)	5		ns
Rise Time		tr	9		
Turn-Off Delay Time		td(off)	35		
Fall Time		tf	11		

3.Pulse test; pulse width $\leq 300 \mu\text{s}$, duty cycle $\leq 2\%$.

4.Guaranteed by design, not subject to production testing.

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7. ELECTRICAL CHARACTERISTICS CURVES

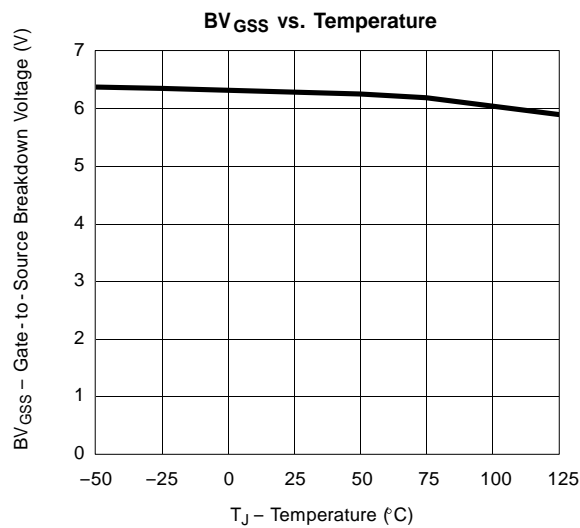
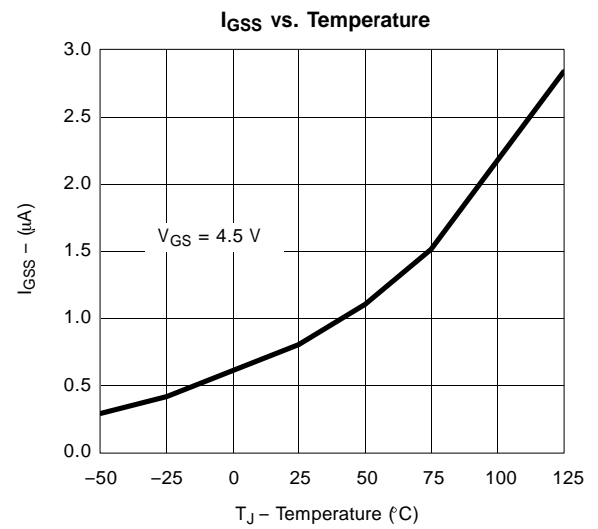
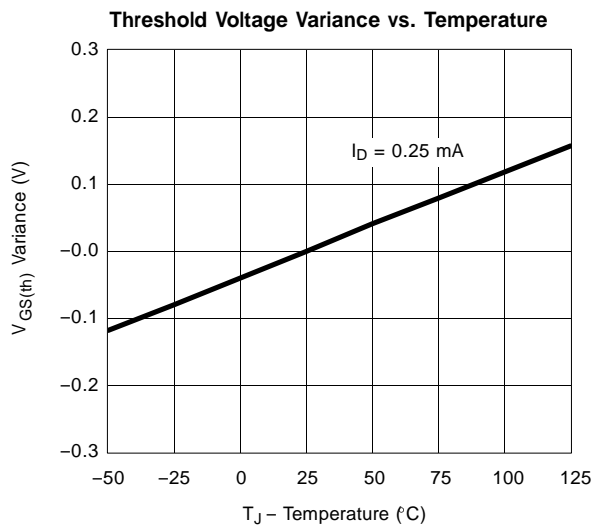
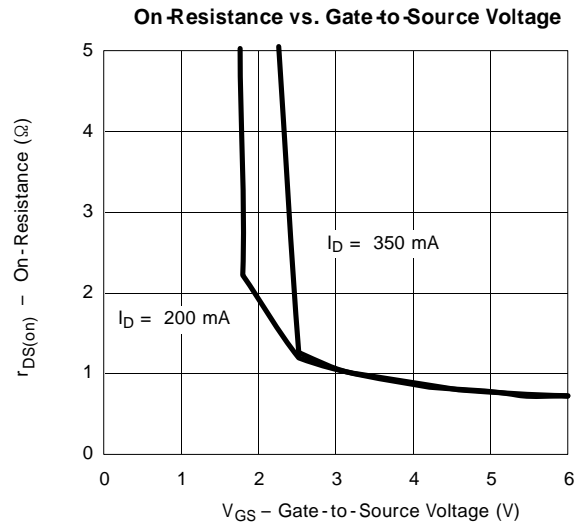
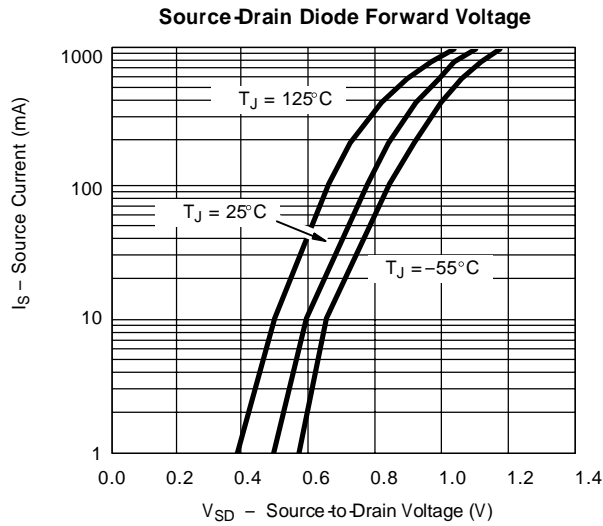




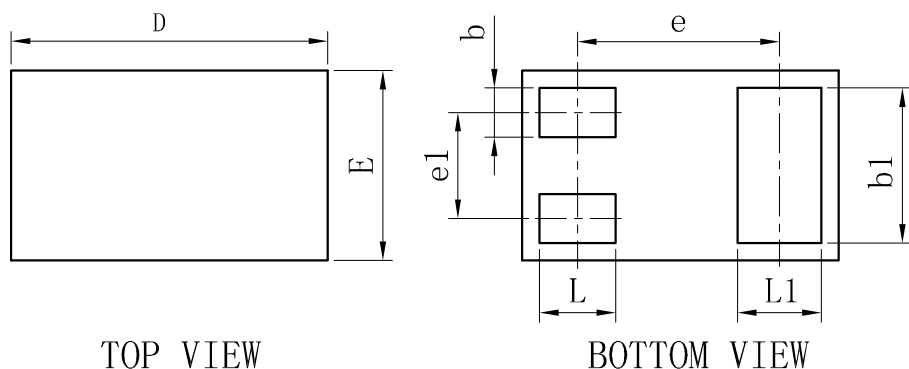
FTK1013SOT883

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7.ELECTRICAL CHARACTERISTICS CURVES(Con.)

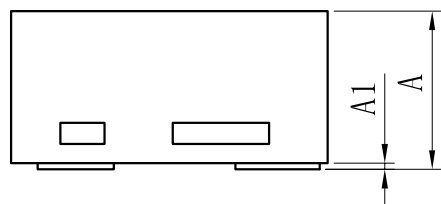


8. OUTLINE AND DIMENSIONS



TOP VIEW

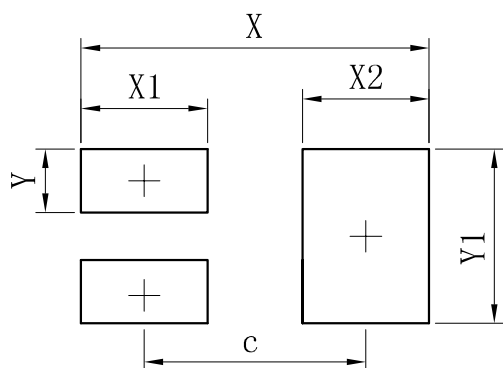
BOTTOM VIEW



SIDE VIEW

SOT-883			
DIM	MIN	TYP	MAX
D	0.95	1.00	1.05
E	0.55	0.60	0.65
e	-	0.64	-
e1	-	0.34	-
L	0.19	0.24	0.29
L1	0.22	0.27	0.32
b	0.10	0.15	0.20
b1	0.44	0.49	0.54
A	0.43	0.48	0.53
A1	0	-	0.05
All Dimensions in mm			

9. SOLDERING FOOTPRINT



Dimensions	(mm)
c	0.70
X	1.10
X1	0.40
X2	0.40
Y	0.20
Y1	0.55