FEATURES

VDS	VGS	RDSon TYP	ID
−30V	±20V	51mR@-10V	−5.4A
		68mR@-4V5	

APPLICATIONS

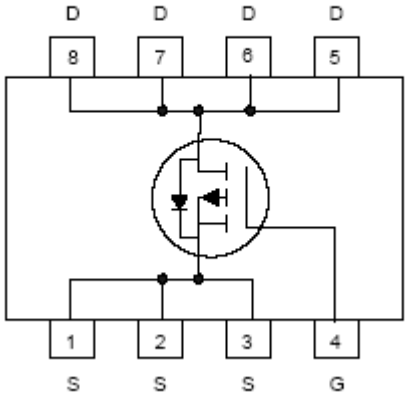
- **Load Switch**
- **TFT panel power switch**
- **DCDC conversion**

DESCRIPTION

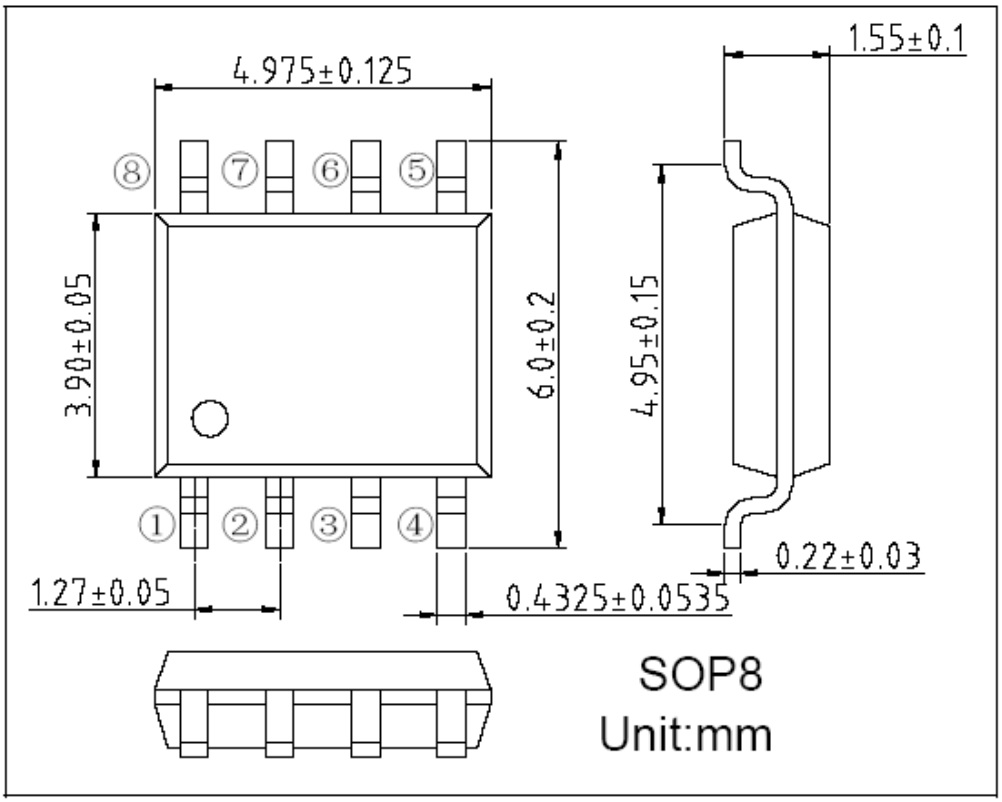
This device is produced with high cell density, DMOS trench technology, which is especially used to minimize on-state resistance. This device is particularly suited for low voltage application such as portable equipment, power management and other battery powered circuits, and low in-line power loss are needed in a very small outline surface mount package.

Pin Configuration

Top View



Packaging Information



Absolute Maximum Ratings @TA=25℃ unless otherwise noted

Parameter		Symbol	Limit	Unit
Drain-Source Voltage		Vdss	-30	V
Gate-Source Voltage		Vgss	±20	V
Drain Current (Note 1)	Continuous TA=25°C	Id	-5.4	A
	Pulsed (Note 2)		-20	A
Total Power Dissipation (Note 1)		Pd	1.5	W
Operating and Storage Junction Temperature Range		Tj,Tstg	-55~150	℃

Electrical Characteristics @TA=25℃ unless otherwise noted

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	V(br)dss	Vgs=0V,Id=-250uA	-30	-36	--	V
Zero Gate Voltage Drain Current	Idss	Vds=-24V,Vgs =0V	--	-0.02	-1	uA
Gate–Body Leakage Current	Igss	Vgs=±20V,Vds=0V	--	±1.5	±10	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	Vgs(th)	Vds=Vgs,Id=-250μA	-1	-1.46	-3	V
Drain-Source On-state Resistance	Rds(on)	Vgs=-10V,Id=-4.6A	--	51	60	mR
		Vgs=-4.5V,Id=-2A	--	68	82	
Forward Transconductance	Gfs	Vds=-5V,Id=-6A	--	12	--	S
DYNAMIC CHARACTERISTICS						
Input Capacitance	Ciss	Vds=-15V,Vgs=0V f =1MHz	--	550	--	pF
Output Capacitance	Coss		--	60	--	
Reverse Transfer Capacitance	Crss		--	50	--	
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	Td(on)	Vds=-15V,Rl=2.5R, Vgs=-10V,Rgen=3R	--	8.6	--	ns
Turn-Off Delay Time	Td(off)		--	28.2	--	
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
Diode Forward Voltage	Vsd	Is=-1A,Vgs=0V	--	-0.81	--	V

Notes :

1. **The value of P_D is measured with the device mounted on 1in ^{2} FR-4 board with 2oz. Copper, in a still air environment with T_A =25°C. The value in any given application depends on the user's specific board design. The current rating is based on the DC thermal resistance rating.**
2. **Repetitive rating, pulse width limited by junction temperature.**

P-channel Typical Performance Characteristics

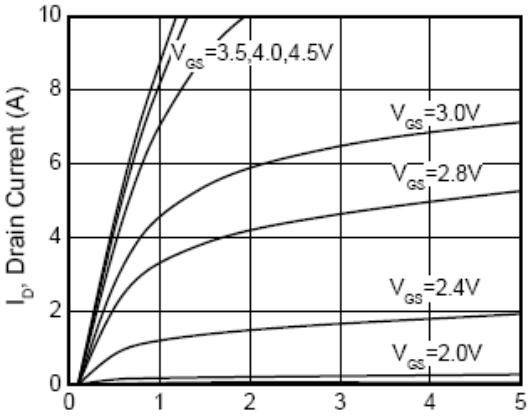


Fig 1. Output Characteristics

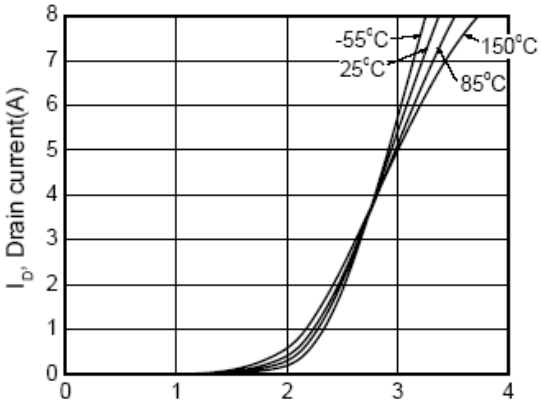


Fig 2. Transfer Characteristics

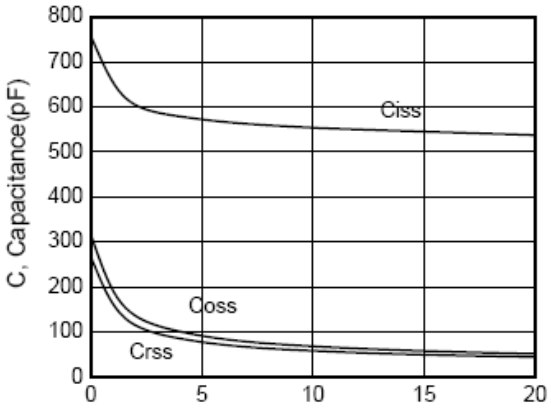


Fig 3. Capacitance

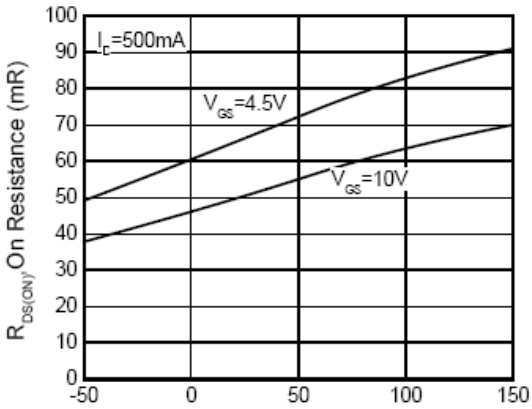


Fig 4. On Resistance Vs. Temperature

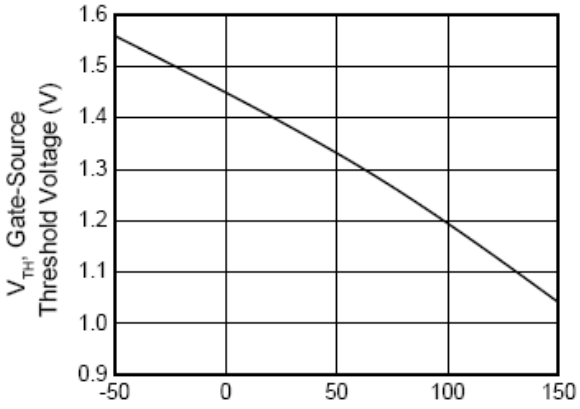


Fig 5. Gate Threshold Vs. Temperature

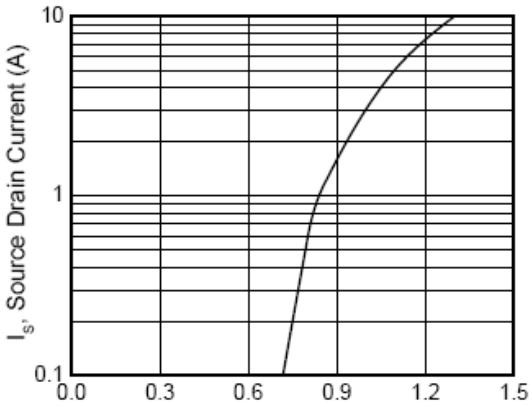


Fig 6.Diode Forward Characteristics