

FEATURES

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

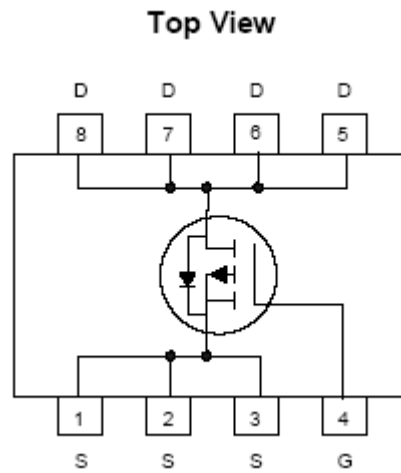
DESCRIPTION

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.

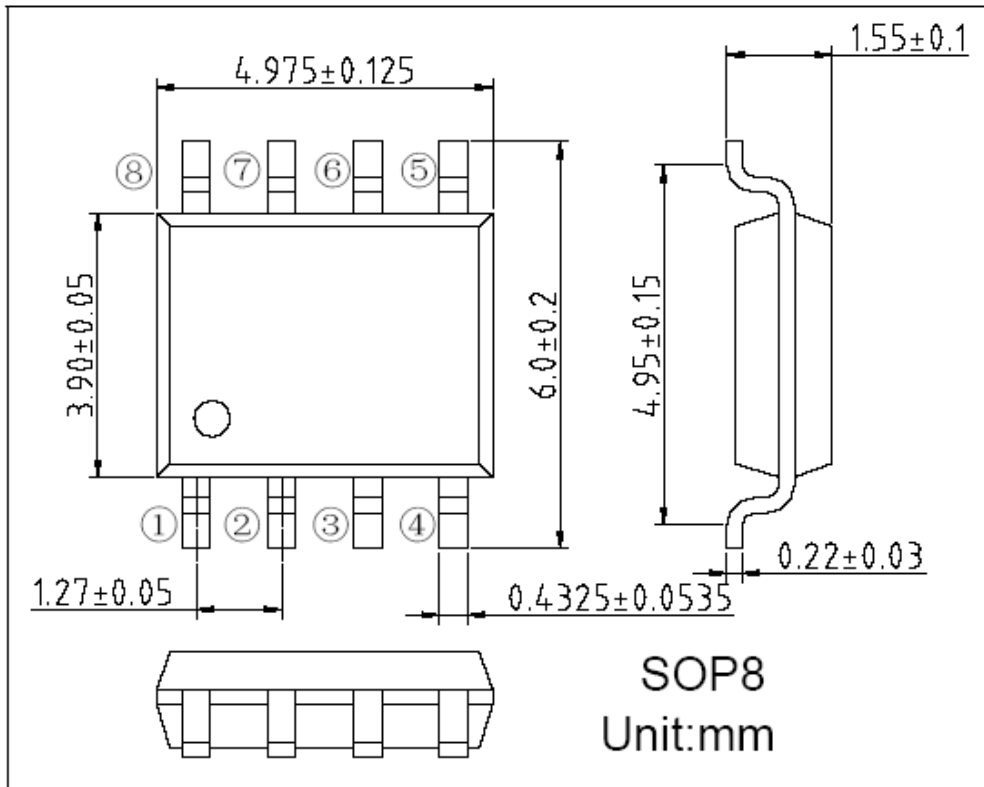
APPLICATIONS

- Load Switch
- TFT panel power switch
- DCDC conversion

Pin Configuration



Packaging Information



Absolute Maximum Ratings @TA=25°C unless otherwise noted

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V _{dss}	-30	V
Gate-Source Voltage	V _{gss}	±20	V
Drain Current (Note 1)	Continuous TA=25°C	-5.4	A
	Pulsed (Note 2)	-20	A
Total Power Dissipation (Note 1)	P _d	1.5	W
Operating and Storage Junction Temperature Range	T _j ,T _{stg}	-55~150	°C

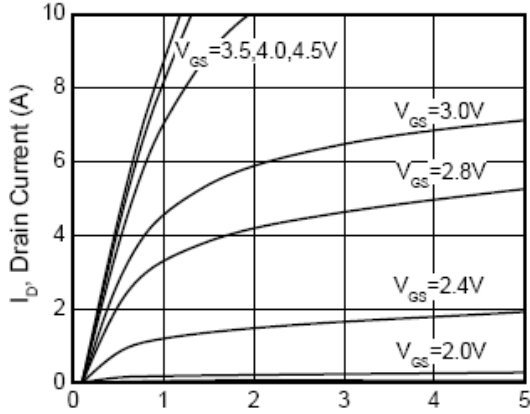
Electrical Characteristics @TA=25°C unless otherwise noted

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	V(br) _{dss}	V _{gs} =0V, I _d =-250μA	-30	-36	--	V
Zero Gate Voltage Drain Current	I _{dss}	V _{ds} =-24V, V _{gs} =0V	--	-0.02	-1	μA
Gate-Body Leakage Current	I _{gss}	V _{gs} =±20V, V _{ds} =0V	--	±1.5	±10	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{gs(th)}	V _{ds} =V _{gs} , I _d =-250μA	-1	-1.46	-3	V
Drain-Source On-state Resistance	R _{ds(on)}	V _{gs} =-10V, I _d =-4.6A	--	51	60	mR
		V _{gs} =-4.5V, I _d =-2A	--	68	82	
Forward Transconductance	G _{fs}	V _{ds} =-5V, I _d =-6A	--	12	--	S
DYNAMIC CHARACTERISTICS						
Input Capacitance	C _{iss}	V _{ds} =-15V, V _{gs} =0V f=1MHz	--	550	--	pF
Output Capacitance	C _{oss}		--	60	--	
Reverse Transfer Capacitance	C _{rss}		--	50	--	
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	T _{d(on)}	V _{ds} =-15V, R _l =2.5R, V _{gs} =-10V, R _{gen} =3R	--	8.6	--	ns
Turn-Off Delay Time	T _{d(off)}		--	28.2	--	
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
Diode Forward Voltage	V _{sd}	I _s =-1A, V _{gs} =0V	--	-0.81	--	V

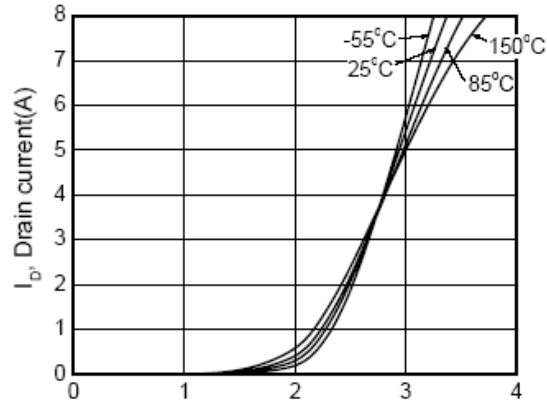
Notes :

1. The value of P_d is measured with the device mounted on 1in² 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.

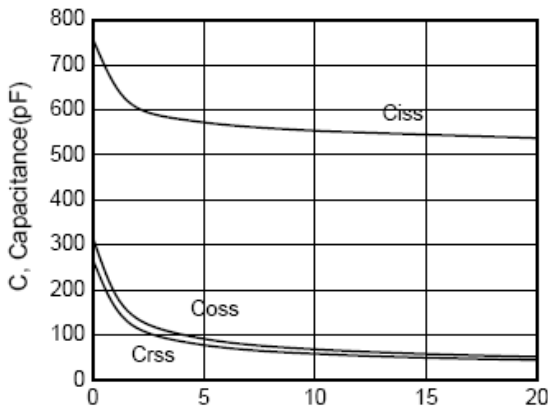
P-channel Typical Performance Characteristics



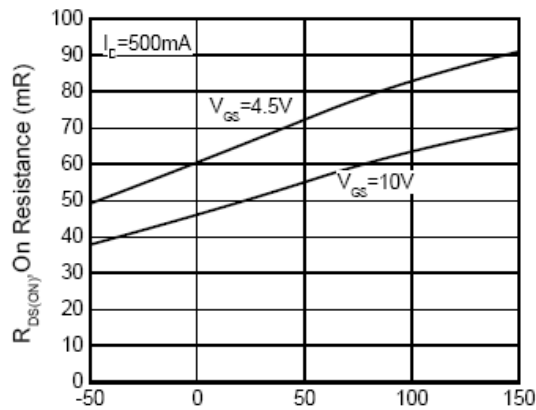
Vds, Drain-Source Voltage (V)
Fig 1. Output Characteristics



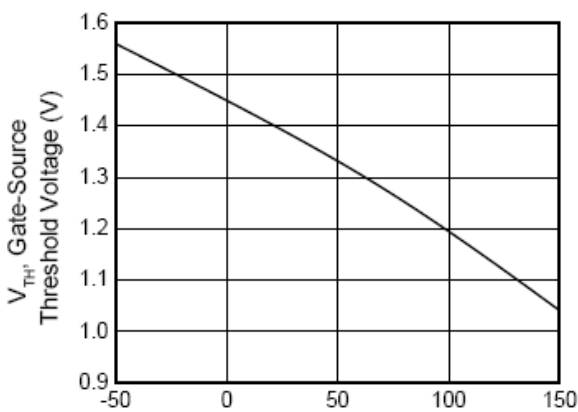
Vgs, Gate-to-Source Voltage (V)
Fig 2. Transfer Characteristics



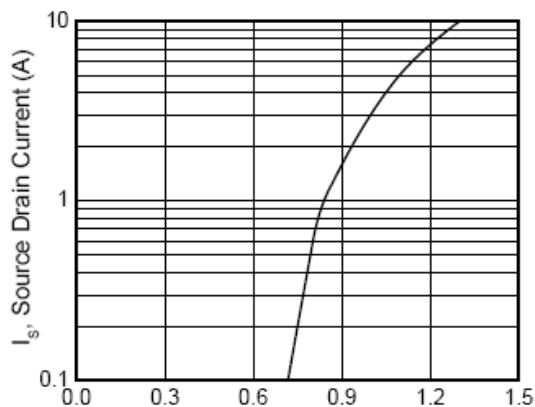
Vds, Drain-Source Voltage (V)
Fig 3. Capacitance



Tj, Junction Temperature (°C)
Fig 4. On Resistance Vs. Temperature



Tj, Junction Temperature (°C)
Fig 5. Gate Threshold Vs. Temperature



Vsd, Body Diode Forward Voltage (V)
Fig 6. Diode Forward Characteristics