

## FEATURES

VDS	VGS	RDSon TYP	ID
-30V	12V	51mR@-10V	-4A
		60mR@-4V5	
		98mR@-2V5	

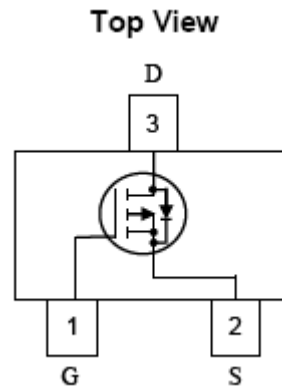
## DESCRIPTION

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 dissipation are needed in a very small outline surface mount package Excellent thermal and electrical capabilities.

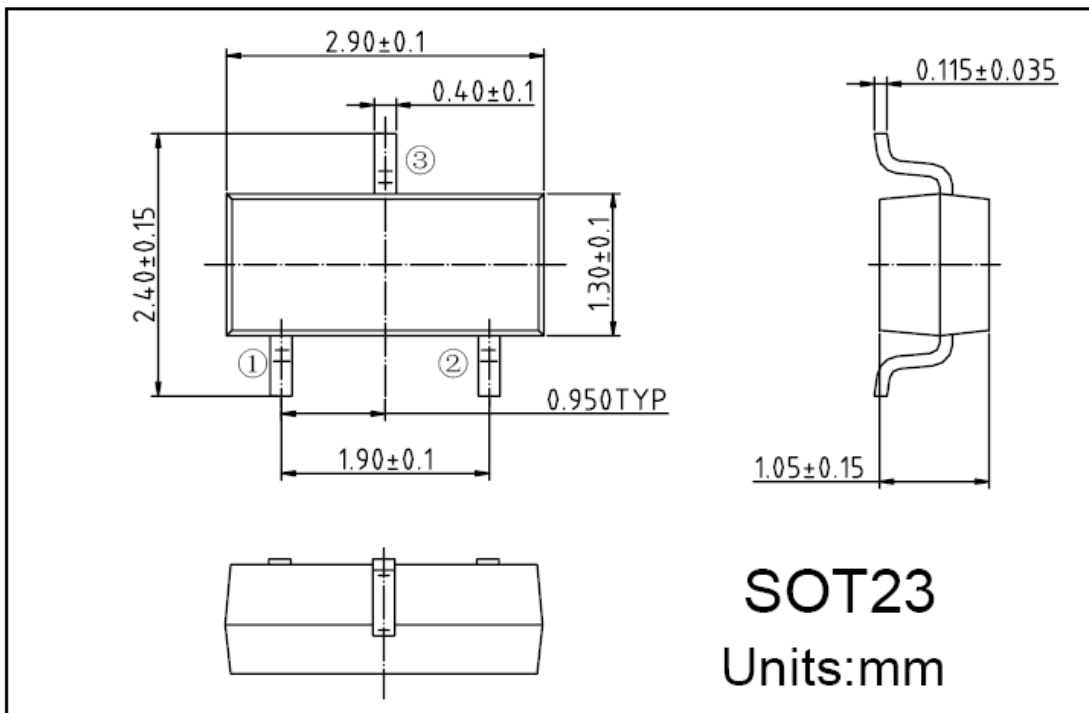
## APPLICATIONS

- Load Switch
- Portable Devices
- DCDC conversion

## Pin Configuration



## Packaging Information



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

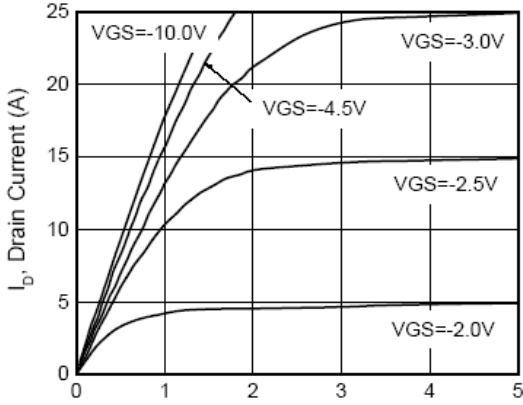
Parameter	Symbol	Limit	Unit	
Drain-Source Voltage	Vdss	-30	V	
Gate-Source Voltage	Vgss	±12	V	
Drain Current (Note 1)	Continuous	Id	-4	A
	Pulsed	Idm	-30	A
Continuous Power Dissipation	Pd	800	mW	
Operating and Storage Temperature Range	Tj,Tstg	-55~150	°C	

**Electrical Characteristics @TA=25°C unless otherwise noted**

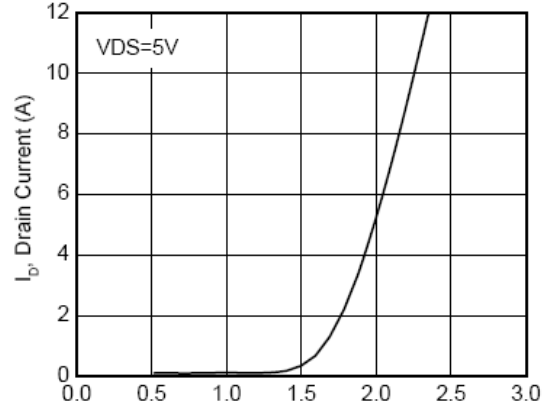
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
<b>OFF CHARACTERISTICS</b>						
Zero Gate Voltage Drain Current	Idss	Vgs=0V, Vds =-30 V	--	--	-1	uA
Gate - Body Leakage, Forward	Igssf	Vgs =-12V	--	--	-100	nA
Gate-Body Leakage, Reverse	Igssr	Vgs=12V	--	--	100	nA
<b>ON CHARACTERISTICS</b>						
Gate Threshold Voltage	Vgs(th )	Vds=Vgs,Id=-250μA	-0.7	-1	-1.3	V
Static Drain-Source On-Resistance	Rds(on)	Vgs=-10V,Id=-4.2A	--	51	55	mR
		Vgs=-4.5V,Id=-4A	--	60	65	
		Vgs=-2.5V,Id=-1A	--	98	120	
<b>DYNAMIC CHARACTERISTICS</b>						
Input Capacitance	Ciss	Vds=-30V,Vgs=0V f =200KHz	--	600	--	pF
Output Capacitance	Coss		--	85	--	
Reverse Transfer Capacitance	Crss		--	66	--	
<b>SWITCHING CHARACTERISTICS</b>						
Turn-On Delay Time	Td(on)	Vds=-15V,RI=3.6R, Vgs=-10V,Rgen=6R	--	6.5	--	ns
Rise Time	Tr		--	3.5	--	
Turn-Off Delay Time	Td(off)		--	40	--	
Fall Time	Tf		--	13	--	
<b>DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS</b>						
Drain-Source Diode Forward Voltage	Vsd	Is=-1A,Vgs=0V	--	-0.78	-1	V

**Notes :**

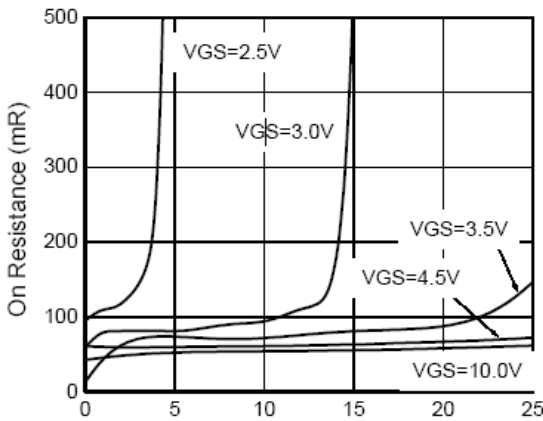
- R0JA** is the sum of the junction-to-case and case-to-ambient thermal resistance where the case thermal reference is defined as the solder mounting surface of the drain pins. **R0JC** is guaranteed by design while **R0CA** is determined by the user's board design.
- Pulse Test:** Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%



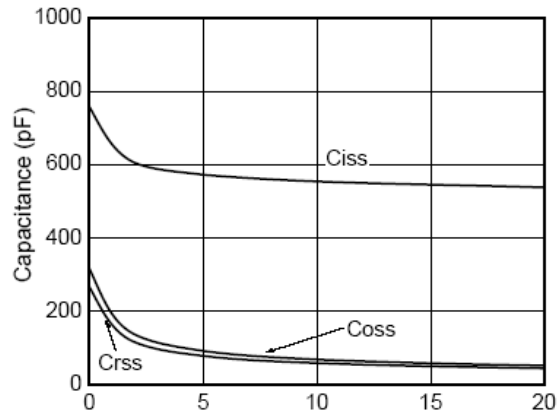
$V_{DS}$ , Drain-Source Voltage (V)  
Figure 1. Output Characteristics



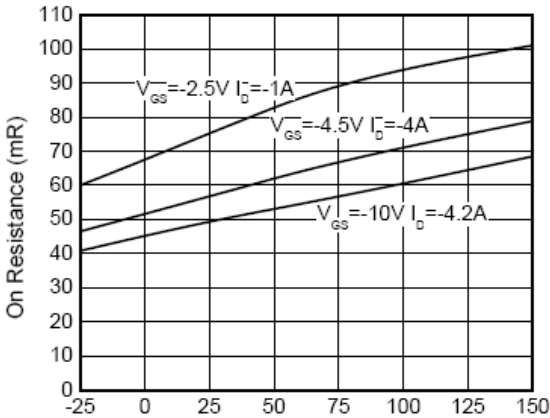
$V_{GS}$ , Gate-to-Source Voltage (V)  
Figure 2. Transfer Characteristics



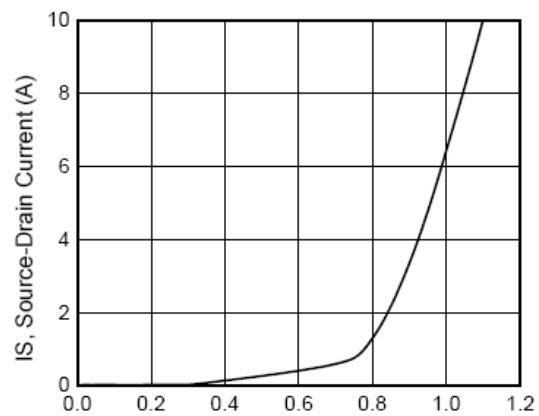
$I_D$ , Drain Current (A)  
Fig3. On Resistance vs. Drain Current



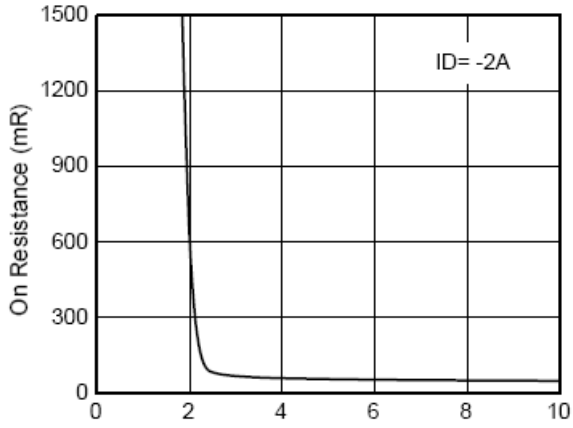
$V_{DS}$ , Drain-Source Voltage (V)  
Fig4. Capacitance



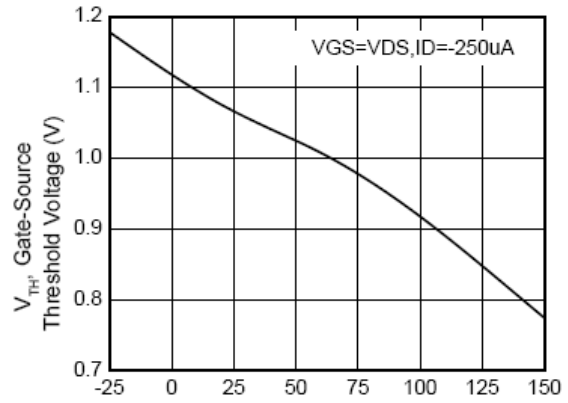
$T_j$ , Junction Temperature ( $^{\circ}C$ )  
Fig5. On resistance vs. Temperature



$V_{DS}$ , Drain-Source Voltage (V)  
Fig6. Diode Forward Characteristics



V<sub>GS</sub>, Gate-to-Source Voltage (V)  
Fig7. On Resistance vs. G-S Voltage



T<sub>J</sub>, Junction Temperature (°C)  
Fig8. Gate Threshold vs. Temperature