FEATURES

VDS	VGS	RDSon TYP	ID
20V	12V	50mR@4V5	3.2A
		65mR@2V5	

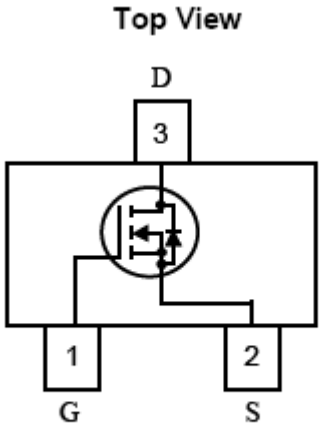
APPLICATIONS

- **Load Switch**
- **Portable Devices**
- **DCDC conversion**

DESCRIPTION

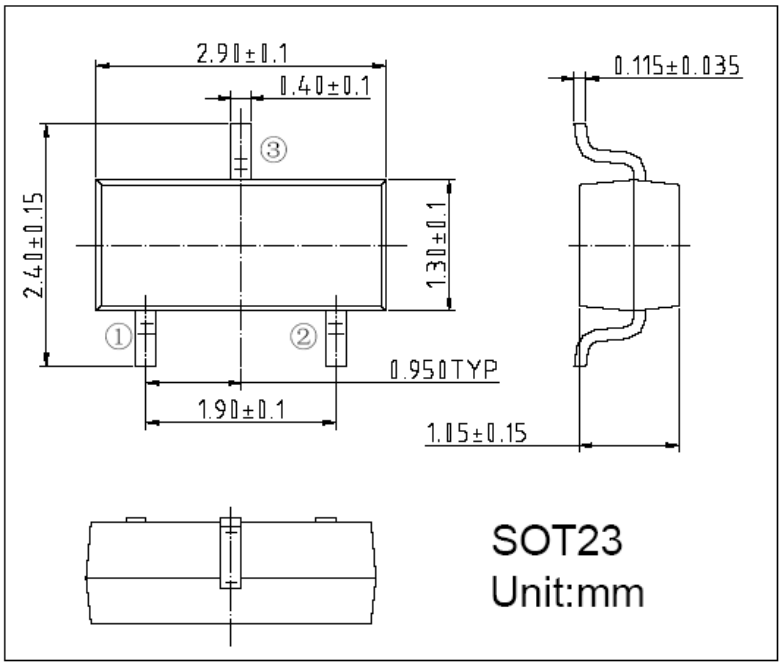
This device is produced with high cell density DMOS trench technology, which is especially used to minimize on-state resistance. This device particularly suits low voltage applications such as portable equipment, power management and other battery powered circuits, and low in-line power dissipation are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

Pin Configuration



D: Drain; G: Gate; S: Source

Packaging Information



Absolute Maximum Ratings @TA=25℃ unless otherwise noted

Parameter		Symbol	Ratings	Unit
Drain-Source Voltage		Vdss	20	V
Gate-Source Voltage		Vgss	±12	V
Drain Current	Continuous	Id	3.2	A
	Pulsed		10	
Power Dissipation(1)		Pd	550	mW
Operating and Storage Junction Temperature Range		Tj,Tstg	-55~150	℃

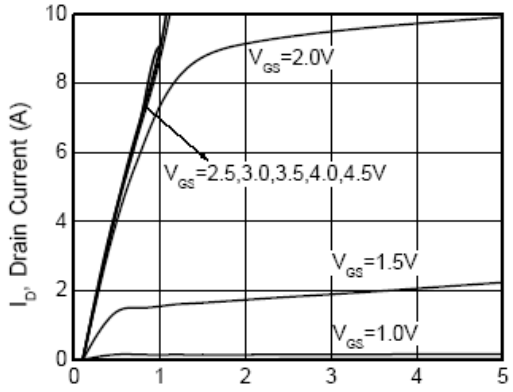
Electrical Characteristics @TA=25℃ unless otherwise noted

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	V(br)dss	Vgs = 0V, Id=10uA	20	--	--	V
Zero Gate Voltage Drain Current	Idss	Vds = 20 V , Vgs = 0V	--	--	1	uA
Gate-Body Leakage	Igss	Vgs = ±12 V , Vds = 0V	--	--	±10	nA
ON CHARACTERISTICS(2)						
Gate Threshold Voltage	Vgs(th)	Id=50uA,Vds=Vgs	0.4	0.75	1.2	V
Drain-Source On-state Resistance	Rds(on)	Vgs=4.5V,Id=3.6A	--	50	85	mR
		Vgs=2.5V,Id=3.1A	--	65	115	mR
Forward Transconductance	Gfs	Vds=5V,Id=3.6A	2	7.7	14	S
DYNAMIC CHARACTERISTICS						
Input Capacitance	Ciss	Vds=10V,Vgs=0V f =1MHz	--	450	--	pF
Output Capacitance	Coss		--	70	--	pF
Reverse Transfer Capacitance	Crss		--	43	--	pF
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	Td(on)	Vdd=5V,Id=3.6A, Vgs=4.5V,Rgen=6R	--	--	15	ns
Turn-On Rise Time	Tr		--	--	80	ns
Turn-Off Delay Tim	Td(off)		--	--	60	ns
Turn-Off Fall Time	Tf		--	--	25	ns
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
Diode Forward Voltage(2)	Vsd	Is=1.1A,Vgs=0V	0.6	0.8	1.15	V

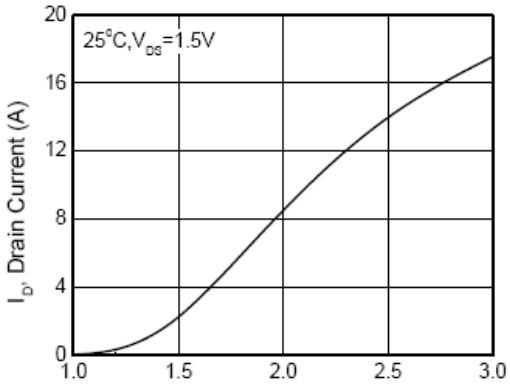
Notes :

1. Surface Mounted on FR4 Board, t < 10 sec.
2. Pulse Test: Pulse Width < 300μs, Duty Cycle < 2%

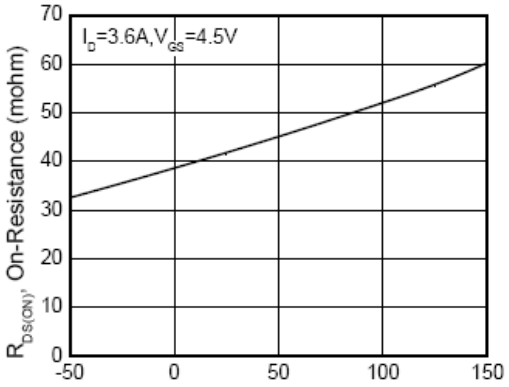
Typical Characteristics



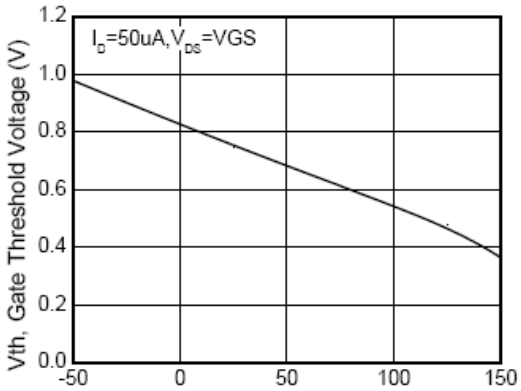
Vds, Drain-Source Voltage (V)
Figure 1. Output Characteristics



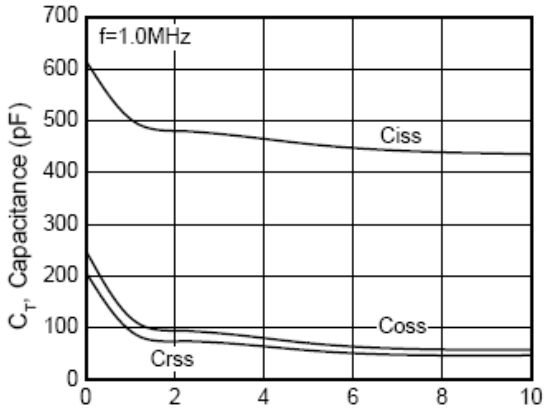
Vgs, Gate-to-Source Voltage (V)
Figure 2. Transfer Characteristics



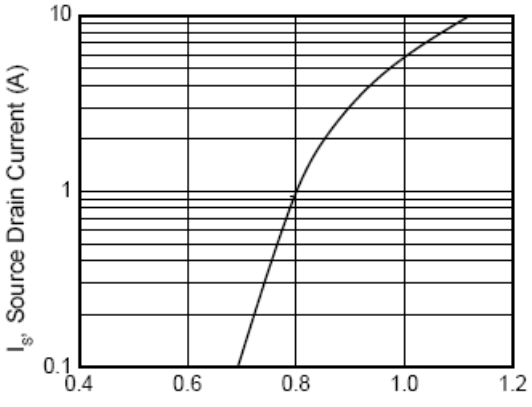
Tj, Junction Temperature(℃)
Fig4.On-Resistance vs. Temperature



Tj, Junction Temperature (℃)
Figure 5. Gate Thershold Vs. Temperature



Vds, Drain Source Voltage
Figure 3. Capacitance



Vsd, Body Diode Forward Voltage (V)
Figure 6. Body Diode Forward Voltage Vs. Source Curre