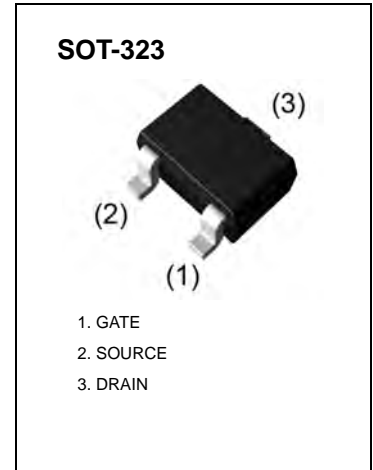


## Plastic-Encapsulate MOSFETs

### P-CHANNEL MOSFET

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	$I_D$
-50V	8Ω@-10V	-0.13A
	10Ω@-5V	



### DESCRIPTION

These miniature surface mount MOSFETs reduce power loss conserve energy, making this device ideal for use in small power management circuitry.

### FEATURE

- Energy Efficient
- Low Threshold Voltage
- High-speed Switching
- Miniature Surface Mount Package Saves Board Space

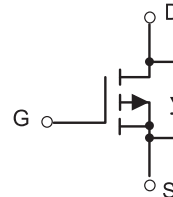
### APPLICATION

- DC-DC converters, load switching, power management in portable and battery-powered products such as computers, printers, cellular and cordless telephones.

### MARKING



### Equivalent Circuit



### MAXIMUM RATINGS ( $T_a=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	-50	V
Gate-Source Voltage	$V_{GS}$	±20	V
Continuous Drain Current	$I_D$	-0.13	A
Pulsed Drain Current (note 1) @tp <10 μs	$I_{DM}$	-0.52	A
Power Dissipation	$P_D$	200	mW
Thermal Resistance from Junction to Ambient (note 2)	$R_{\theta JA}$	556	°C/W
Junction Temperature	$T_J$	150	°C
Storage Temperature	$T_{STG}$	-55~+150	°C
Maximum Lead Temperature for Soldering Purposes , Duration for 5 Seconds	$T_L$	260	°C



## Plastic-Encapsulate MOSFETs

### MOSFET ELECTRICAL CHARACTERISTICS

T<sub>a</sub>=25 °C unless otherwise specified

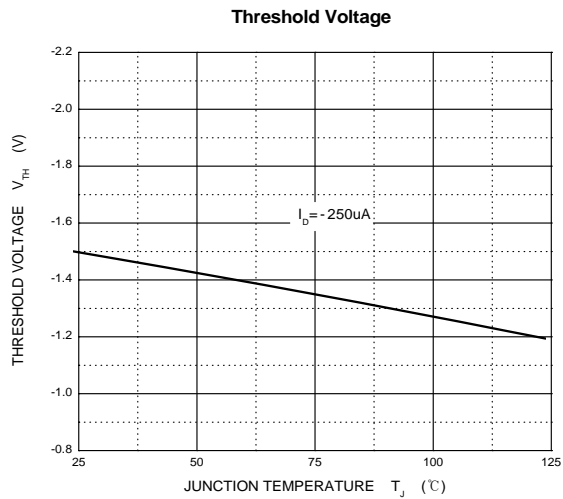
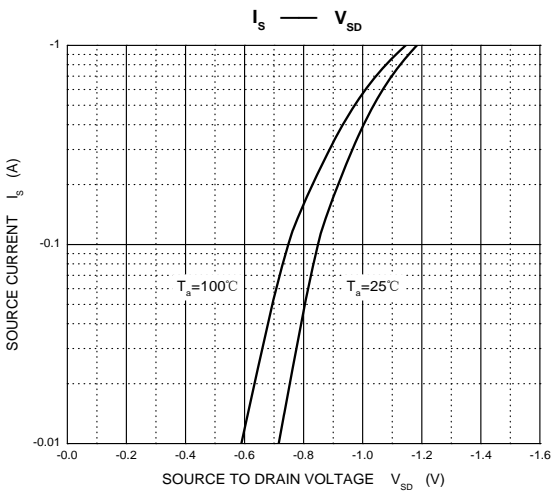
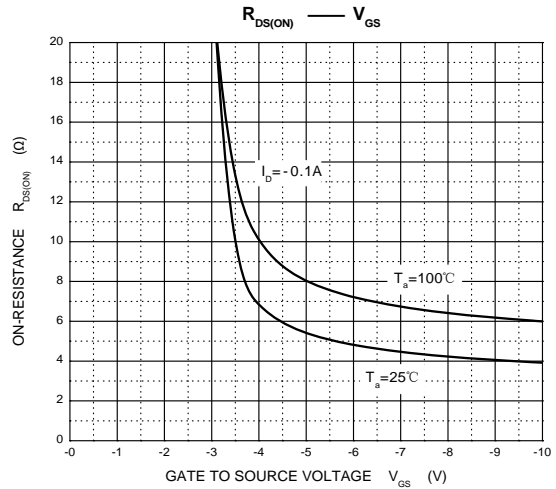
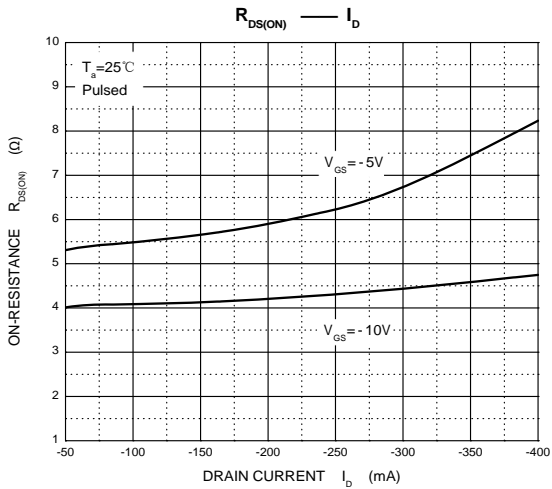
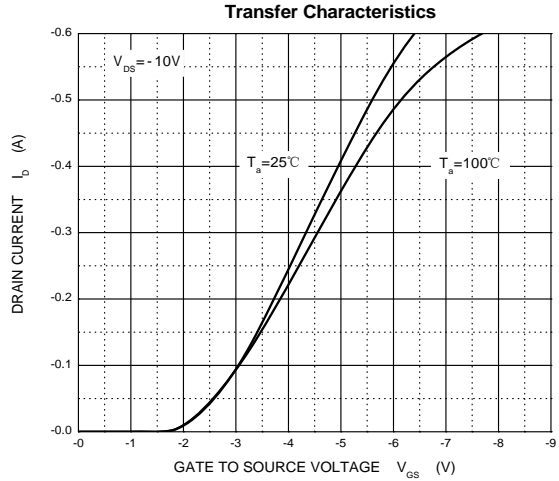
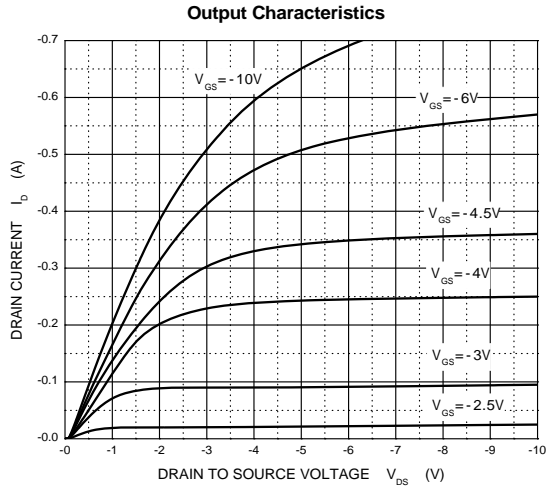
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>STATIC CHARACTERISTICS</b>						
Drain-source breakdown voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = -250μA	-50			V
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> = -50V, V <sub>GS</sub> = 0V			-15	μA
		V <sub>DS</sub> = -25V, V <sub>GS</sub> = 0V			-0.1	μA
Gate-body leakage current	I <sub>GSS</sub>	V <sub>GS</sub> = ±20V, V <sub>DS</sub> = 0V			±5	μA
Gate threshold voltage (note 3)	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -250μA	-0.9	-1.6	-2	V
Drain-source on-resistance (note 3)	R <sub>DS(on)</sub>	V <sub>GS</sub> = -5V, I <sub>D</sub> = -0.1A		5.8	10	Ω
		V <sub>GS</sub> = -10V, I <sub>D</sub> = -0.1A		4.5	8	Ω
Forward transconductance (note 1)	g <sub>FS</sub>	V <sub>DS</sub> = -25V; I <sub>D</sub> = -100mA	50			mS
<b>DYNAMIC CHARACTERISTICS (note 4)</b>						
Input capacitance	C <sub>iss</sub>	V <sub>DS</sub> = 5V, V <sub>GS</sub> = 0V, f = 1MHz		30		pF
Output capacitance	C <sub>oss</sub>			10		pF
Reverse transfer capacitance	C <sub>rss</sub>			5		pF
<b>SWITCHING CHARACTERISTICS (note 4)</b>						
Turn-on delay time	t <sub>d(on)</sub>	V <sub>DD</sub> = -15V, R <sub>L</sub> = 50Ω, I <sub>D</sub> = -2.5A		2.5		ns
Turn-on rise time	t <sub>r</sub>			1		ns
Turn-off delay time	t <sub>d(off)</sub>			16		ns
Turn-off fall time	t <sub>f</sub>			8		ns
<b>SOURCE-DRAIN DIODE CHARACTERISTICS</b>						
Continuous Current	I <sub>S</sub>				-0.13	A
Pulsed Current	I <sub>SM</sub>				-0.52	A
Diode forward voltage (note 3)	V <sub>SD</sub>	I <sub>S</sub> = -0.13A, V <sub>GS</sub> = 0V			-2.2	V

**Notes :**

1. Repetitive rating : Pulse width limited by junction temperature.
2. Surface mounted on FR4 board , t≤10s.
3. Pulse Test : Pulse Width≤300μs, Duty Cycle≤2%.
4. Guaranteed by design, not subject to producing.

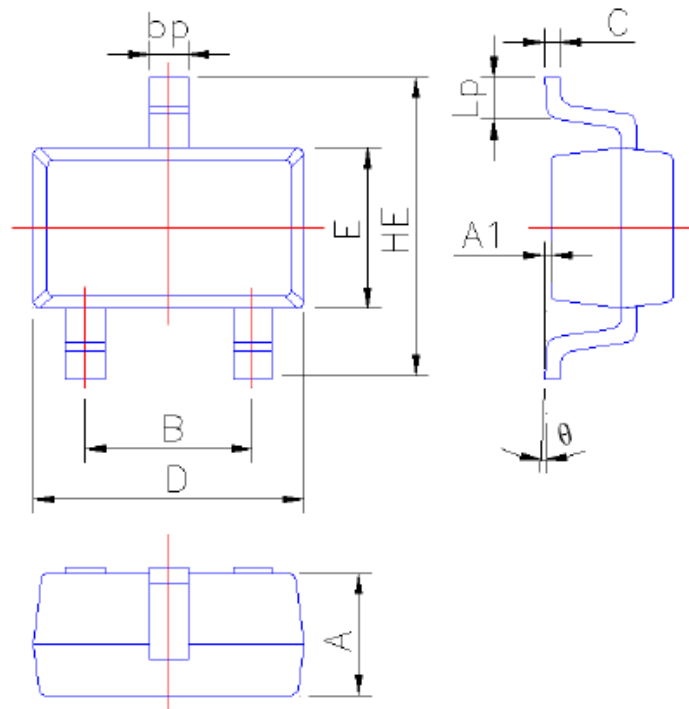
## Plastic-Encapsulate MOSFETs

### Typical Characteristics



## Plastic-Encapsulate MOSFETs

### SOT-323 Package Outline Dimensions



Symbol	Dimension in Millimeters	
	Min	Max
A	0.90	1.00
A1	0.010	0.100
B	1.20	1.40
bp	0.25	0.45
C	0.09	0.15
D	2.00	2.20
E	1.15	1.35
HE	2.15	2.55
Lp	0.25	0.46
θ	0°	6°