

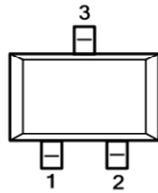
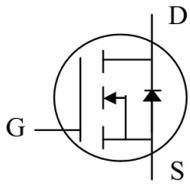
## N-Channel 100V MOSFET

### Features:

- Surface-mounted package
- Halogen free

### Application

- DC-DC
- Portable appliance
- Power management



Top View  
SOT23S-3L

$B_{VDSS} = 100V$  ,  
 $R_{DS(ON)} < 6\Omega @ V_{GS} = 10V$   
 $I_D = 0.17A$

### Absolute Maximum Ratings ( $T_A = 25^\circ C$ Unless Otherwise Noted)

Parameter	Symbol	BSS123	Unit
	Marking	SA	
Drain-Source Voltage	$V_{DSS}$	100	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Continuous Drain Current <sup>(1)</sup>	$I_D$	0.17	A
Pulsed Drain Current <sup>(2)</sup>	$I_{DM}$	0.68	A
Power Dissipation(FR-5 board) <sup>(3)</sup>	$P_D$	225	mW
Operating Junction and Storage Temperature Range	$T_J, T_{stg}$	-55 to 150	$^\circ C$

### Thermal Characteristics

Symbol	Characteristic	Max.	Units
$R_{\theta JA}$	Junction-to-Ambient	556	$^\circ C/W$

Note :

- (1) The Power dissipation of the package may result in a lower continuous drain current.
- (2) Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2.0\%$
- (3) FR-5= 1.0 X 0.75 X 0.062 in

**N-Channel 100V MOSFET**
**Electrical Characteristics** ( $T_A = 25^\circ\text{C}$  Unless Otherwise Specified)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
<b>Static</b>						
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	100	--	--	V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=1mA$	0.8	--	2.8	V
$I_{GSS}$	Gate-Body Leakage	$V_{DS}=0V, V_{GS}=\pm 20V$	--	--	$\pm 50$	nA
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS}=100V, V_{GS}=0V$	--	--	15	$\mu A$
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V, I_D=100mA$	--	5.0	6.0	$\Omega$
$V_{SD}$	Diode Forward On-voltage	$V_{GS}=0V, I_D=0.34A$	--	--	1.3	V
$g_{FS}$	Forward Transconductance	$I_D=100mA, V_{DS}=25V$	80	--	--	mS
<b>Dynamic<sup>(4)</sup></b>						
$C_{iss}$	Input Capacitance	$V_{DS}=25V, V_{GS}=0V, f=1.0MHz$	--	32	--	pF
$C_{oss}$	Output Capacitance		--	12	--	
$C_{riss}$	Reverse Transfer Capacitance		--	7	--	
$t_{d(on)}$	Turn-On Delay Time	$V_{DS}=30V, I_D=0.28A,$ $V_{GS}=3V, R_{GS}=220\Omega$	--	20	--	ns
$t_{d(off)}$	Turn-Off Delay Time		--	10	--	

Note :

 (4) Pulse test: pulse width  $\leq 300\mu s$ , duty cycle  $\leq 2\%$

N-Channel 100V MOSFET

TYPICAL ELECTRICAL CHARACTERISTICS

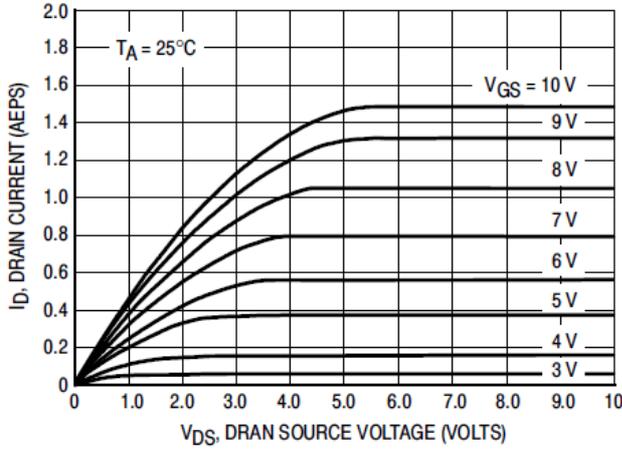


Figure 1. Ohmic Region

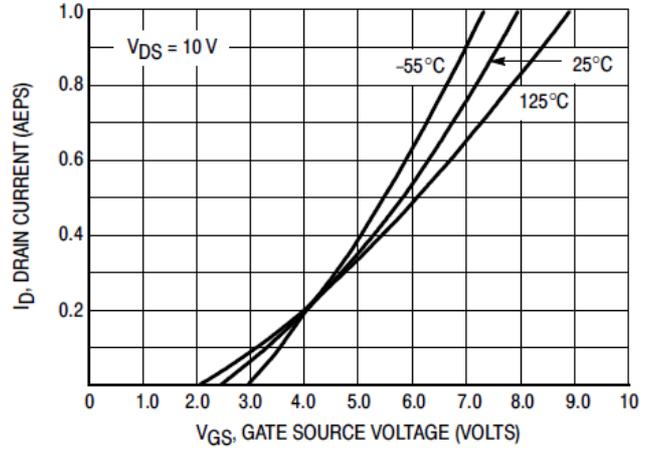


Figure 2. Transfer Characteristics

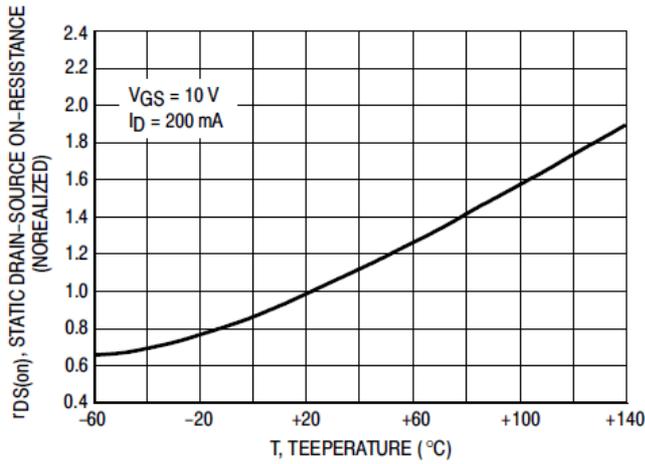


Figure 3. Temperature versus Static Drain-Source On-Resistance

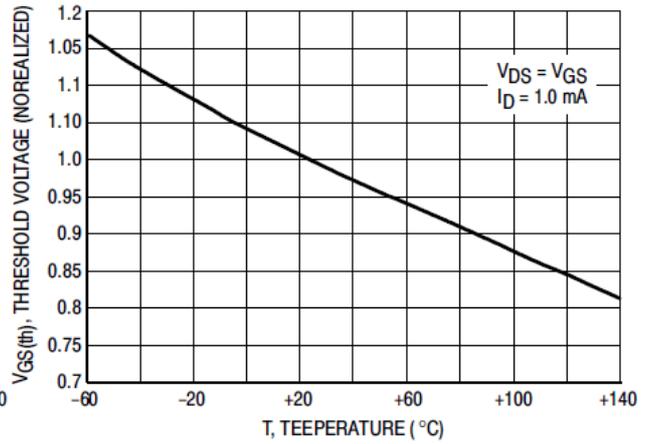
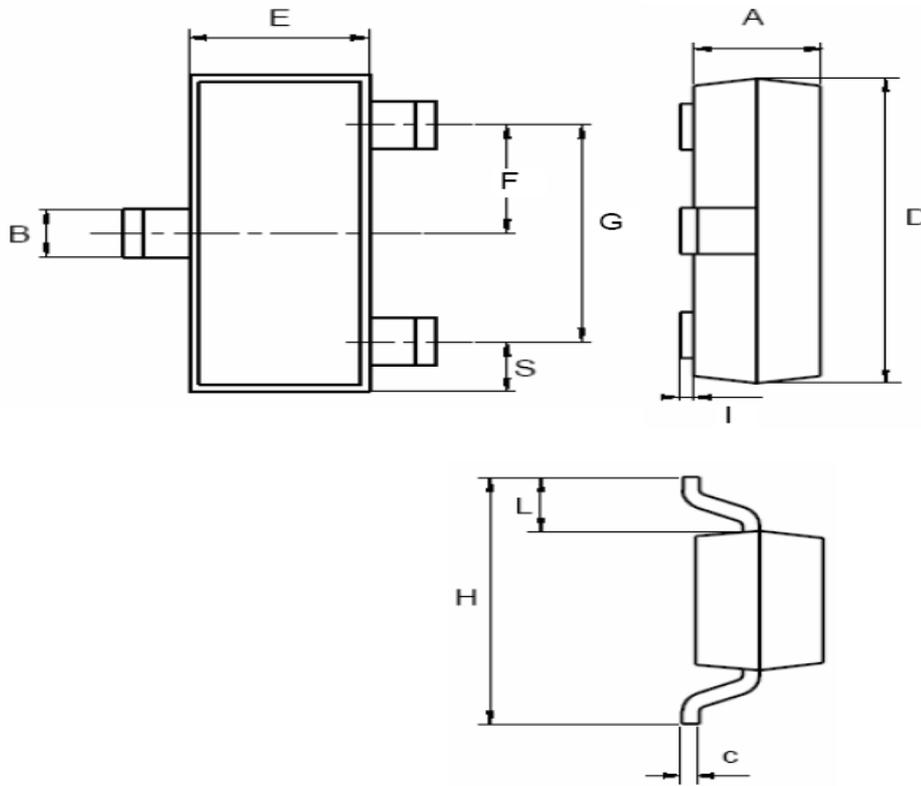


Figure 4. Temperature versus Gate Threshold Voltage

N-Channel 100V MOSFET



SOT-23		
DIM.	MIN.	MAX.
A	0.89	1.40
B	0.30	0.51
C	0.085	0.18
D	2.75	3.04
E	1.20	1.60
F	0.85	1.05
G	1.70	2.10
H	2.10	2.75
I	0.0	0.1
L	0.60 typ.	
S	0.35	0.65
All Dimensions in millimeter		

## Important Notice and Disclaimer

LSC reserves the right to make changes to this document and its products and specifications at any time without notice. Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.

LSC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does LSC assume any liability for application assistance or customer product design. LSC does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.

No license is granted by implication or otherwise under any intellectual property rights of LSC.

LSC products are not authorized for use as critical components in life support devices or systems without express written approval of LSC.