

LMNBSS123 100V N-Channel Enhancement Mode MOSFET

Features

- 100V, 0.17A, $R_{DS(ON)} = 6.0\Omega @ V_{GS} = 10V$
- SOT-23 package design
- Lead(Pb)-Free

Product Description

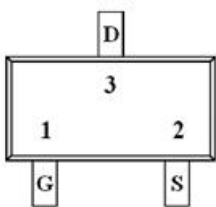
The LMNBSS123 is the N-Channel enhancement mode field effect transistors are produced using high cell density DMOS technology.

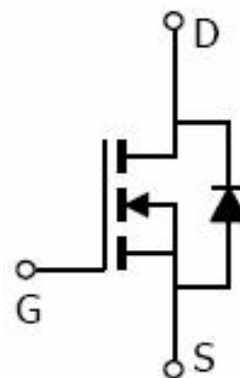
These products have been designed to minimize on-state resistance while provide rugged, reliable, and fast switching performance.

Applications

- DC to DC Converter
- Cellular & PCMCIA Card
- Cordless Telephone
- Power Management in Portable and Battery etc.

Pin Configuration

LMNBSS123JZF (SOT-23)	
 Top Views	
Pin	Description
1	Gate
2	Source
3	Drain



Ordering Information

Part Number	P/N	PKG Code	Pb Free Code	Package	Quantity Reel
LMNBSS123JZF	LMNBSS123	JZ	F	SOT-23	3000 pcs

Marking Information

Part Marking	Part Number	LFC code
SAT	SA	T

Absolute Maximum Ratings

(T_A=25°C Unless otherwise noted)

Symbol	Parameter	Typical	Unit
V _{DSS}	Drain-Source Voltage	100	V
V _{GSS}	Gate-Source Voltage- Continuous	±20	V
V _{GSM}	Gate-Source Voltage- Non Repetitive(tp ≤ 50us)	±40	V
I _D	Continuous Drain Current(T _A =25°C)	0.17	A
I _{DM}	Pulsed Drain Current ¹	0.68	A
P _D	Power Dissipation(T _A =25°C) ²	0.225	W
	Power Dissipation (Derate above 25°C)	1.8	W/°C
T _J	Operating Junction Temperature Range	-55 to +150	°C
T _{STG}	Storage Temperature Range	-55 to +150	°C
R _{θJA}	Thermal Resistance-Junction to Ambient	556	°C/W

Note:

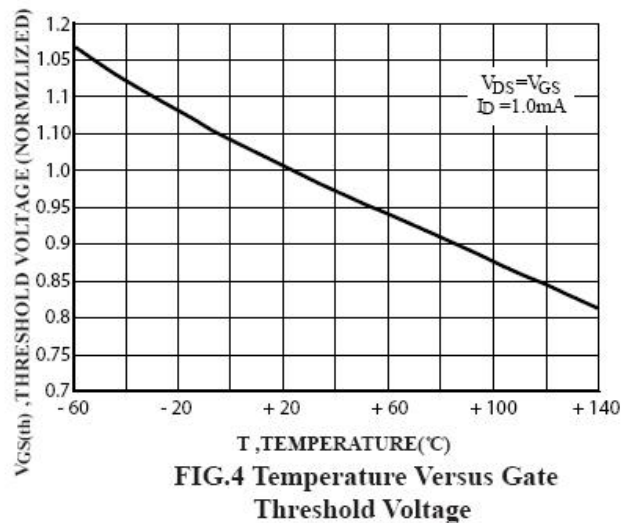
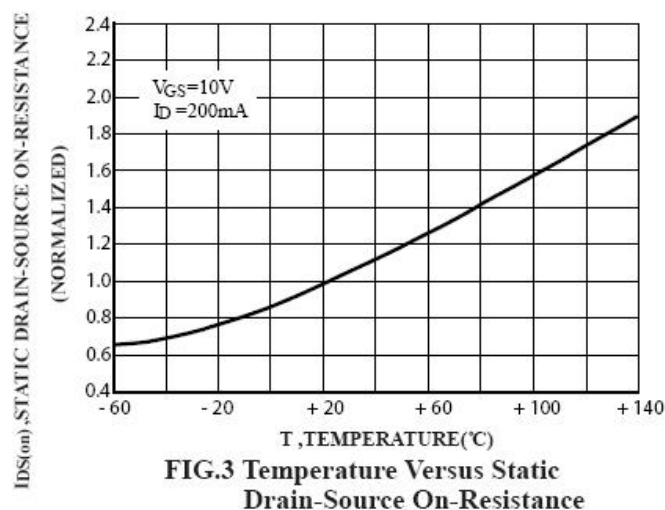
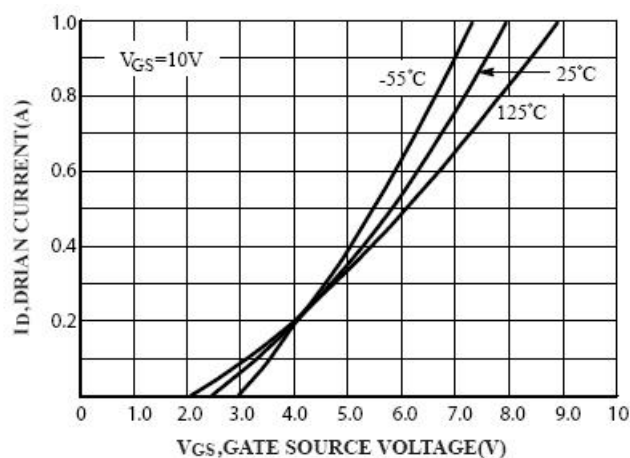
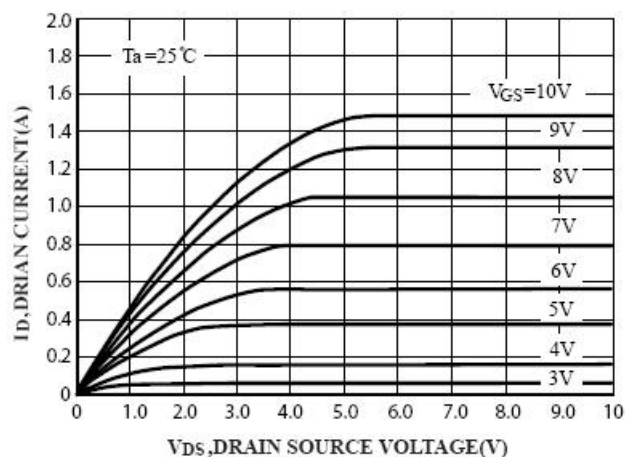
1. Pulse Test : PW ≤ 300us, Duty Cycle ≤ 2%
2. RF-5=1.0x0.75x0.062 in.

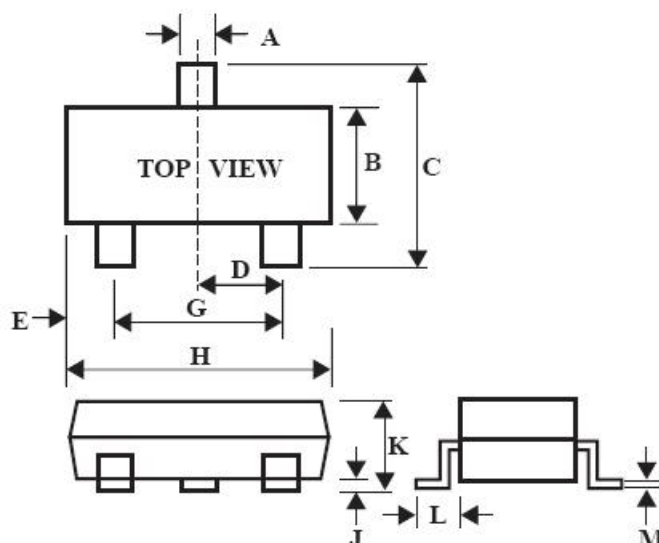
Electrical Characteristics

(T_A=25°C Unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
Static						
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250uA	100			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =1.0mA	0.8		2.8	V
I _{GSS}	Gate Leakage Current	V _{DS} =0V, V _{GS} =±20V			50	nA
I _{DSS}	Drain-Source Leakage Current	V _{DS} =100V, V _{GS} =0V			15	uA
		V _{DS} =100V, V _{GS} =0V, T _J =125°C			60	
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} =10V, I _D =0.1A		5.0	6.0	Ω
g _{FS}	Forward Transconductance	V _{DS} =25V, I _D =0.1A	8.0			ms
V _{SD}	Diode Forward Voltage	V _{GS} =0V, I _S =0.34A			1.3	V
Dynamic						
C _{iss}	Input Capacitance	V _{DS} =25V, V _{GS} =0V, f=1MHz		20		pF
C _{oss}	Output Capacitance			9		
C _{rss}	Reverse Transfer Capacitance			4		
t _{d(on)}	Turn-On Time	V _{DD} =30V, I _D =0.28A, V _{GS} =10V, R _G =50Ω		20		ns
t _{d(off)}	Turn-Off Time			40		

Typical Performance Characteristics



Package Dimension
SOT-23


Dimensions				
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	0.350	0.510	0.014	0.020
B	1.190	1.400	0.046	0.055
C	2.100	3.000	0.082	0.118
D	0.850	1.050	0.033	0.041
E	0.460	1.000	0.018	0.039
G	1.700	2.100	0.066	0.082
H	2.700	3.100	0.106	0.122
J	0.010	0.130	0.000	0.005
K	0.890	1.100	0.035	0.043
L	0.300	0.610	0.011	0.024
M	0.076	0.250	0.003	0.010