

# GSMBSS123

## 100V N-Channel Enhancement Mode MOSFET

### Product Description

The GSMBSS123 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.

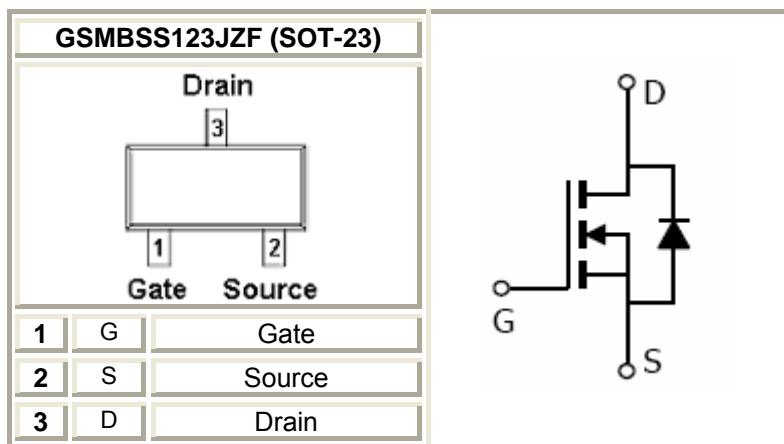
### Features

- 100V/0.1A ,  $R_{DS(ON)}=6.0\Omega@V_{GS}=10V$
- SOT-23 package design
- Lead(Pb)-Free

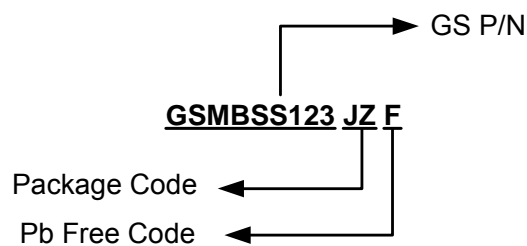
### Applications

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

### Packages & Pin Assignments

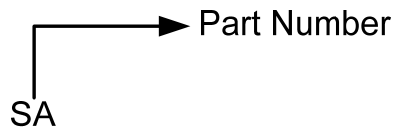


### Ordering Information



Part Number	Package	Quantity
GSMBSS123JZF	SOT-23	3000 PCS

## Marking Information



## Absolute Maximum Ratings

(T<sub>A</sub>=25°C Unless otherwise noted)

Symbol	Parameter	Typical	Unit
V <sub>DSS</sub>	Drain-Source Voltage	100	V
V <sub>GS</sub>	Gate-Source Voltage – Continuous	±20	V
V <sub>GSM</sub>	Gate-Source Voltage – Non Repetitive (t <sub>p</sub> ≤ 50us)	±40	V
I <sub>D</sub>	Continuous Drain Current (T <sub>A</sub> =25°C)	170	mA
I <sub>DM</sub>	Pulsed Drain Current (1)	680	mA
P <sub>D</sub>	Power Dissipation (T <sub>A</sub> =25°C) (2) Derate above 25°C	225 1.8	mW mW/ °C
T <sub>J</sub>	Junction Temperature Range	-55 to 150	°C
T <sub>STG</sub>	Storage Temperature Range	-55 to 150	°C
R <sub>θJA</sub>	Maximum Junction to Ambient	556	°C/ W

## Electrical Characteristics

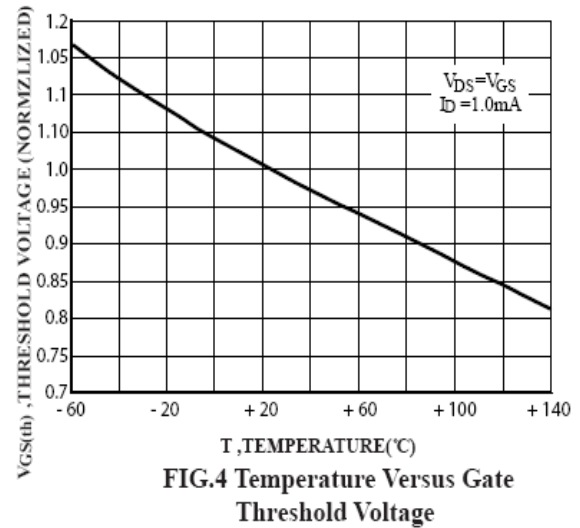
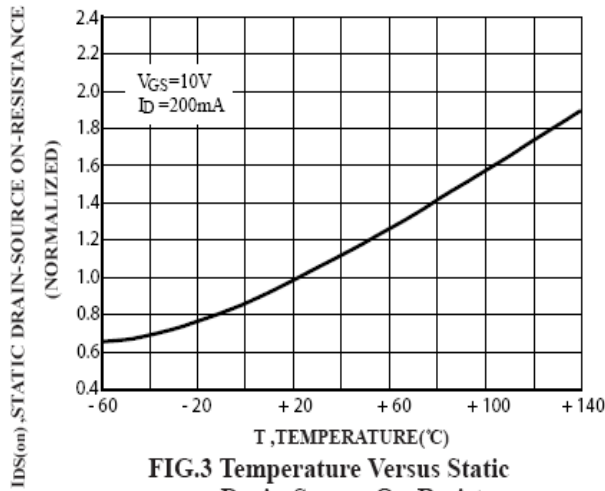
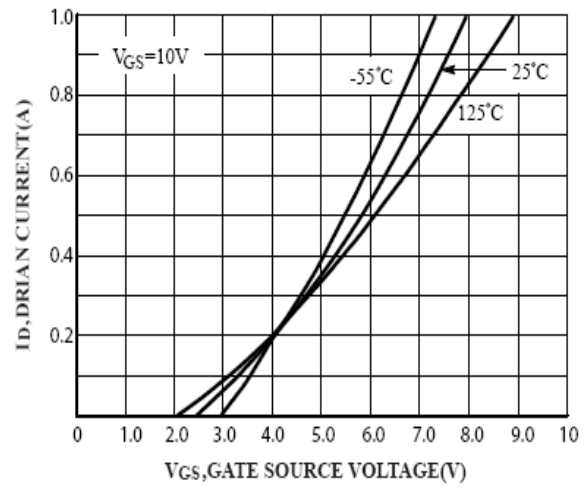
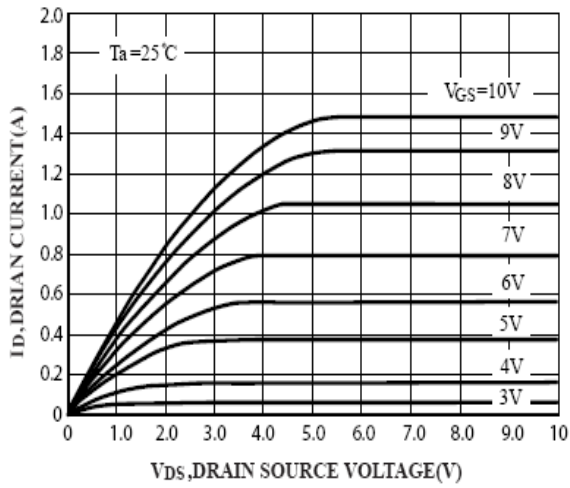
(T<sub>A</sub>=25°C unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
<b>Static</b>						
V <sub>(BR)DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V, I <sub>D</sub> =250uA	100			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =1.0mA	0.8		2.8	
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>DS</sub> =0V, V <sub>GS</sub> =±20V			50	nA
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> =0V, V <sub>GS</sub> =100V, T <sub>J</sub> =25 °C			15	uA
		V <sub>DS</sub> =0V, V <sub>GS</sub> =100V, T <sub>J</sub> =125 °C			60	
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> =10V, I <sub>D</sub> =0.1A		5.0	6.0	Ω
g <sub>FS</sub>	Forward Trans conductance	V <sub>DS</sub> =25V, I <sub>D</sub> =0.1A	8.0			ms
<b>Dynamic</b>						
C <sub>iss</sub>	Input Capacitance	V <sub>DS</sub> =25V, V <sub>GS</sub> =0V, f=1.0MHz		20		pF
C <sub>oss</sub>	Output Capacitance			9.0		
C <sub>rss</sub>	Reverse Transfer Capacitance			4.0		
t <sub>d(on)</sub>	Turn-On Delay Time	V <sub>CC</sub> =30V, I <sub>C</sub> =0.28A, V <sub>GS</sub> =10V, R <sub>GS</sub> =50Ω		20		ns
t <sub>d(off)</sub>	Turn-Off Delay Time			40		
V <sub>SD</sub>	Diode Forward On-Voltage	I <sub>D</sub> =0.34A, V <sub>GS</sub> =0V			1.3	V

Note 1: Pulse Test : PW ≤ 300us, Duty Cycle ≤ 2%

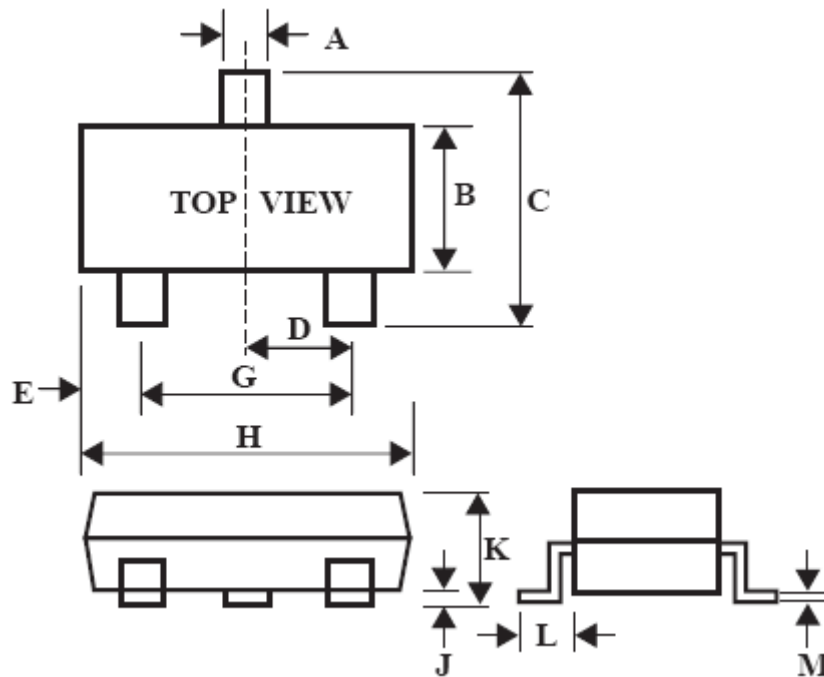
2: RF-5=1.0x0.75x0.062 in

## Typical Performance Characteristics



Package Dimension

# SOT-23








Dimensions				
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	0.35	0.51	0.014	0.020
B	1.19	1.40	0.046	0.055
C	2.10	3.00	0.082	0.118
D	0.85	1.05	0.033	0.041
E	0.46	1.00	0.018	0.039
G	1.70	2.10	0.066	0.082
H	2.70	3.10	0.106	0.122
J	0.01	0.13	0.000	0.005
K	0.89	1.10	0.035	0.043
L	0.30	0.61	0.011	0.024
M	0.076	0.25	0.003	0.010



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## CONTACT US

GS Headquarter	
	4F.,No.43-1,Lane11,Sec.6,Minquan E.Rd NeiHu District Taipei City 114, Taiwan (R.O.C)
	886-2-2657-9980
	886-2-2657-3630
	sales_twn@gs-power.com

Wu-Xi Branch	
	No.21 Changjiang Rd., WND, Wuxi, Jiangsu, China (INFO. & TECH. Science Park Building A 210 Room)
	86-510-85217051
	86-510-85211238
	sales_cn@gs-power.com

RD Division	
	824 Bolton Drive Milpitas. CA. 95035
	1-408-457-0587