

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.

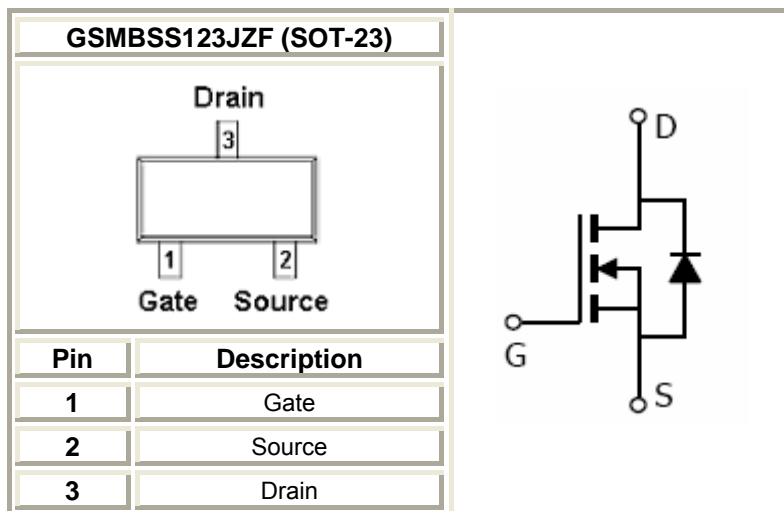
Features

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

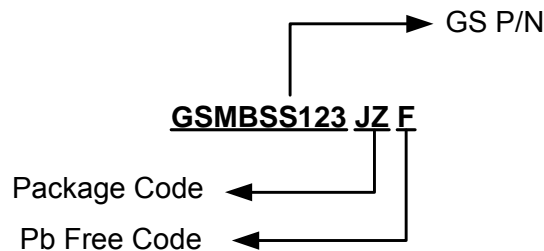
Applications

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

Packages & Pin Assignments

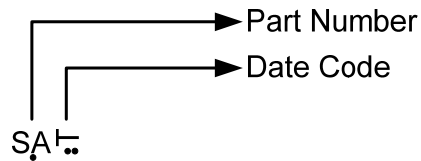


Ordering Information



Part Number	Package	Quantity
GSMBSS123JZF	SOT-23	3000 PCS

Marking Information



Part Number	Package	Part Marking
GSMBSS123JZF	SOT-23	SAT

Absolute Maximum Ratings

($T_A=25^\circ\text{C}$ Unless otherwise noted)

Symbol	Parameter	Typical	Unit
V_{DSS}	Drain-Source Voltage	100	V
V_{GS}	Gate-Source Voltage – Continuous	± 20	V
V_{GSM}	Gate-Source Voltage – Non Repetitive ($t_p \leq 50\mu\text{s}$)	± 40	V
I_D	Continuous Drain Current ($T_A=25^\circ\text{C}$)	170	mA
I_{DM}	Pulsed Drain Current (1)	680	mA
P_D	Power Dissipation ($T_A=25^\circ\text{C}$) (2) Derate above 25°C	225 1.8	mW mW/ $^\circ\text{C}$
T_J	Junction Temperature Range	-55 to 150	$^\circ\text{C}$
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ\text{C}$
$R_{\theta JA}$	Maximum Junction to Ambient	556	$^\circ\text{C}/\text{W}$

Electrical Characteristics

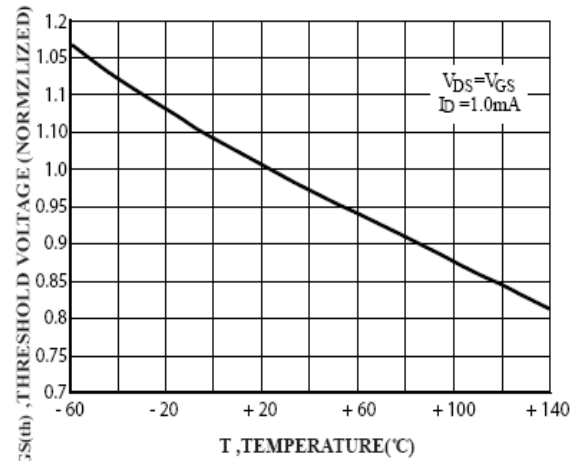
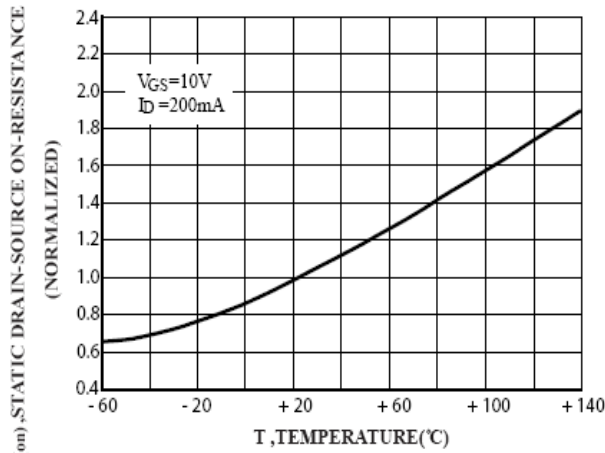
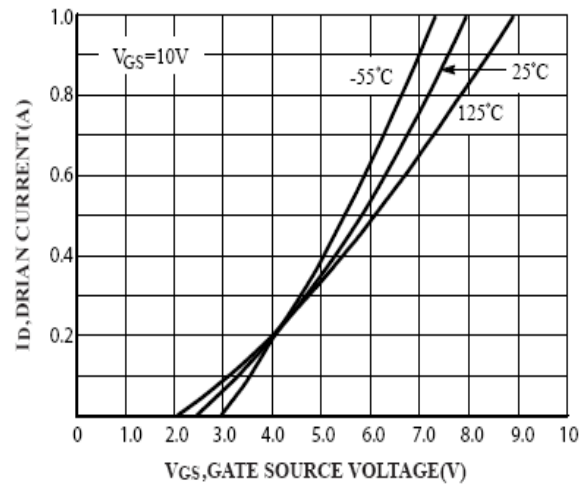
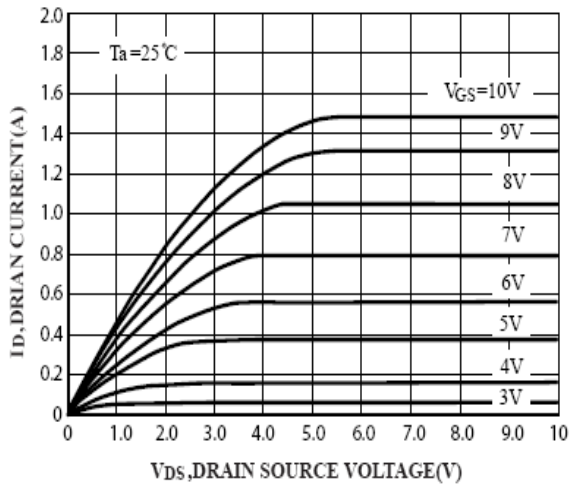
($T_A=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
Static						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0\text{V}, I_D=250\mu\text{A}$	100			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=1.0\text{mA}$	0.8		2.8	
I_{GSS}	Gate-Source Leakage Current	$V_{DS}=0\text{V}, V_{GS}=\pm 20\text{V}$			50	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=0\text{V}, V_{GS}=100\text{V}, T_J=25^\circ\text{C}$			15	uA
		$V_{DS}=0\text{V}, V_{GS}=100\text{V}, T_J=125^\circ\text{C}$			60	
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}, I_D=0.1\text{A}$		5.0	6.0	Ω
g_{FS}	Forward Trans conductance	$V_{DS}=25\text{V}, I_D=0.1\text{A}$	8.0			ms
Dynamic						
C_{iss}	Input Capacitance	$V_{DS}=25\text{V}, V_{GS}=0\text{V}, f=1.0\text{MHz}$		20		pF
C_{oss}	Output Capacitance			9.0		
C_{rss}	Reverse Transfer Capacitance			4.0		
$t_{d(on)}$	Turn-On Delay Time	$V_{CC}=30\text{V}, I_C=0.28\text{A}, V_{GS}=10\text{V}, R_{GS}=50\Omega$		20		ns
$t_{d(off)}$	Turn-Off Delay Time			40		
V_{SD}	Diode Forward On-Voltage	$I_D=0.34\text{A}, V_{GS}=0\text{V}$			1.3	V

Note 1: Pulse Test : $PW \leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$.

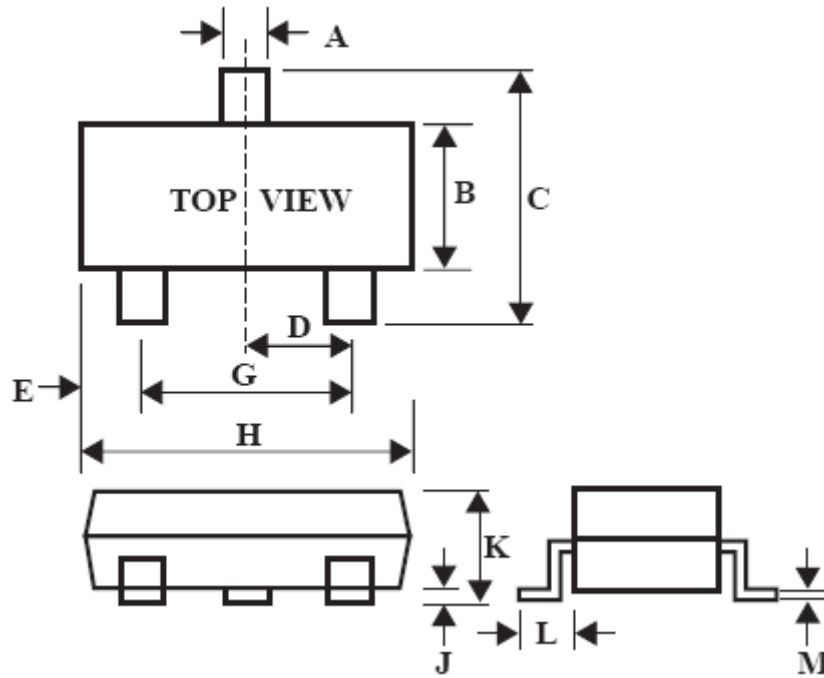
Note 2: RF-5=1.0x0.75x0.062 in.

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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