GSMBSS84

50V P-Channel Enhancement Mode MOSFET

Product Description

GSMBSS84, P-Channel enhancement mode MOSFET, uses Advanced Trench Technology to provide excellent $R_{DS(ON)}$, low gate charge.

These devices are particularly suited for low voltage power management, such as smart phone and notebook computer and other battery powered circuits, and low in-line power loss are needed in commercial industrial surface mount applications.

Features

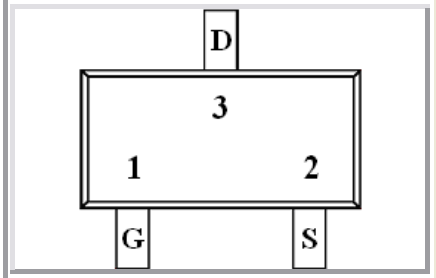
- -50V/-0.1A,$R_{DS(ON)}$=10Ω@V_{GS}=-5V
- Super high density cell design for extremely low $R_{DS\ (ON)}$
- Exceptional on-resistance and maximum DC current capability
- SOT-23 package design

Applications

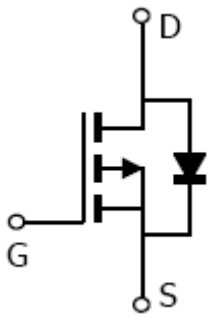
- DC to DC Converter
- Cellular & PCMCIA Card
- Cordless Telephone
- Power Management in Portable and Battery etc.

Packages & Pin Assignments

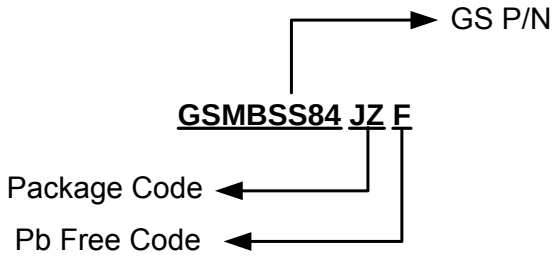
GSMBSS84JZF (SOT-23)



Pin	Description
1	Gate
2	Source
3	Drain

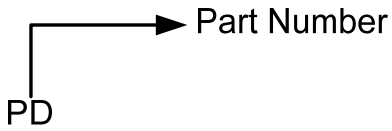


Ordering Information



Part Number	Package	Quantity
GSMBSS84JZF	SOT-23	3000 PCS

Marking Information



Absolute Maximum Ratings

(T_A=25ºC unless otherwise noted)

Symbol	Parameter	Typical	Unit
V_{DSS}	Drain-Source Voltage	-50	V
V_{GSS}	Gate-Source Voltage	±20	V
I_D	Continuous Drain Current(T_A=25℃)	-130	mA
I_{DM}	Pulsed Drain Current (tp≦10us)	-520	mA
I_S	Continuous Current	-0.13	A
P_D	Power Dissipation (T_A=25ºC)	225	mW
T_J	Operating Junction Temperature	-55 to 150	ºC
T_{STG}	Storage Temperature Range	-55 to 150	ºC
$R_{\theta JA}$	Maximax Junction to Ambient	556	ºC/ W

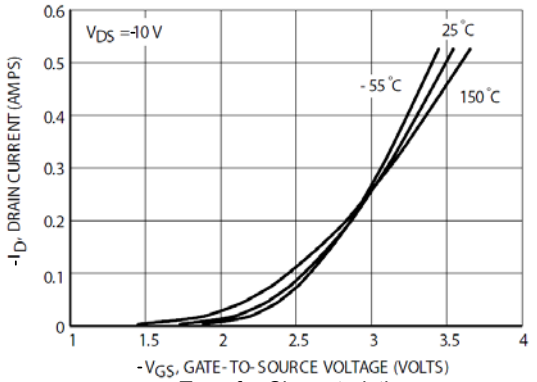
Note 1: Pulse Test: PW≦300us, Duty Cycle≦2%.
2: Switching Time is Essentially Independent of Operating Temperature.

Electrical Characteristics

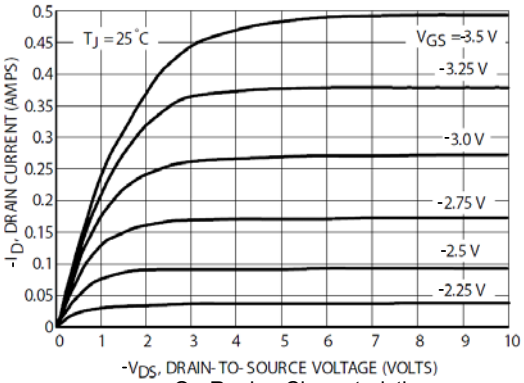
(T_A=25°C unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
Static						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	V_{GS}=0V,I_D=-250uA	-50			V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS},I_D=-1.0mA	-0.8		-2.0	
I_{GSS}	Gate-Source Leakage Current	V_{DS}=0V,V_{GS}=±20V			±60	uA
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}= -25V,V_{GS}=0V			-0.1	uA
		V_{DS}= -50V,V_{GS}=0V			-15	
$R_{DS(on)}$	Drain-Source On-Resistance	V_{GS}=-5V,I_D=-100mA		5.0	10	Ω
g_{fs}	Forward Transconductance	V_{DS}=-25V,I_D=-100mA, f=1.0KHz	50			mS
V_{SD}	Forward Voltage			-2.5		V
Dynamic						
C_{iss}	Input Capacitance	V_{DS}=-5V, V_{GS}=0V,f=1MHz		30		pF
C_{oss}	Output Capacitance			10		
C_{rss}	Reverse Transfer Capacitance			5.0		
Q_G	Gate Charge			6		nC
$t_{d(on)}$	Turn-On Time	V_{DD}=-15V, R_L=50Ω ,I_D=-2.5A		25		ns
t_r				1.0		
$t_{d(off)}$	Turn-Off Time			16		
t_f				8.0		

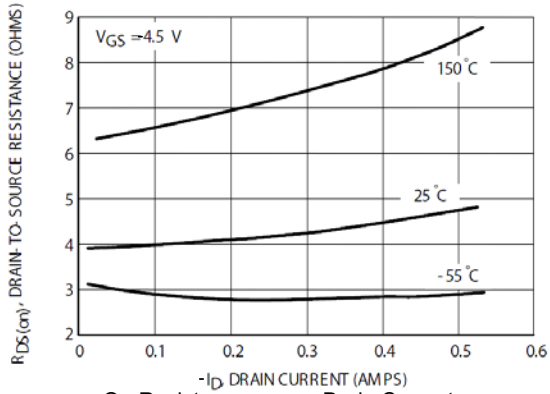
Typical Performance Characteristics



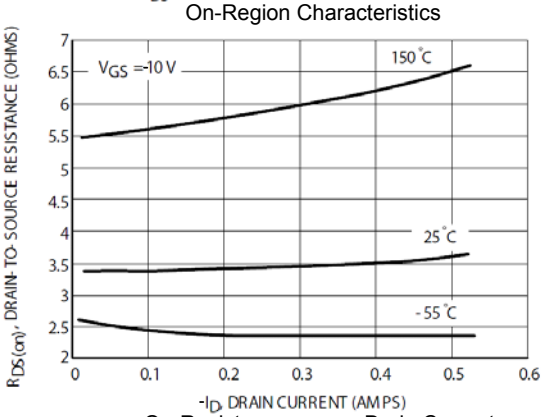
Transfer Characteristics



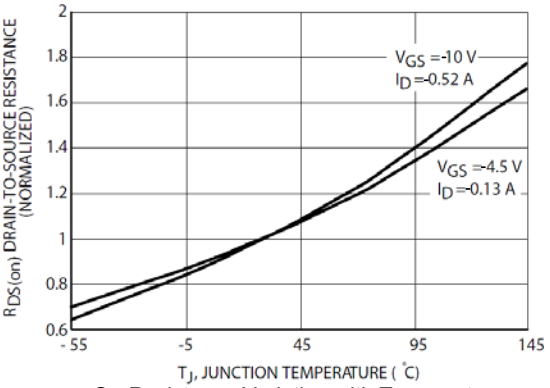
On-Region Characteristics



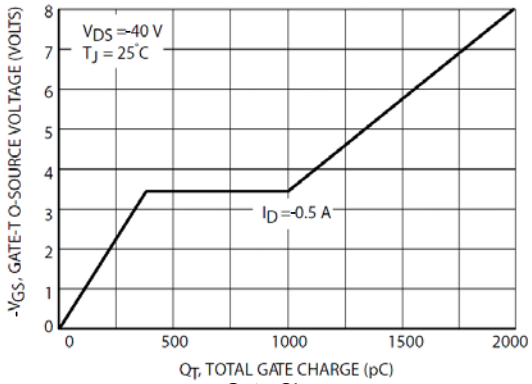
On-Resistance versus Drain Current



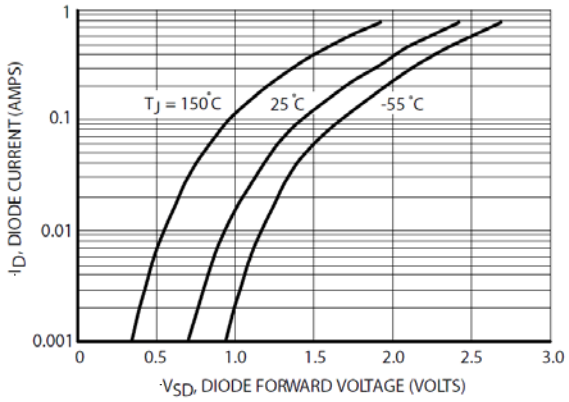
On-Resistance versus Drain Current



On-Resistance Variation with Temperature



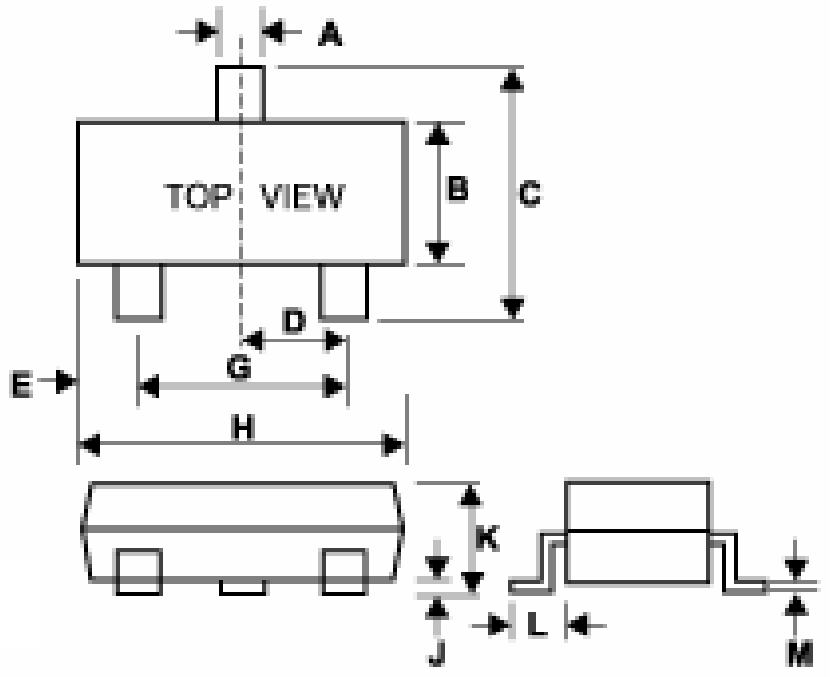
Gate Charge



Body Diode Forward Voltage

Package Dimension

SOT-23



Dimensions				
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	0.35	0.51	0.013	0.020
B	1.19	1.80	0.046	0.070
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	0.0003	0.005
K	0.89	1.60	0.035	0.062
L	0.30	0.61	0.011	0.024
M	0.076	0.25	0.002	0.009

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