GSMBSS84WX5F

60V P-Channel MOSFETs

Product Description

GSMBSS84W, 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.

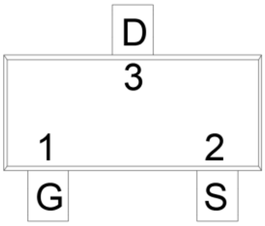
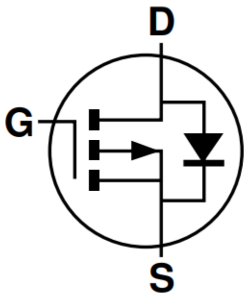
Features

- -60V/-0.13A,$R_{DS(ON)}$=10Ω@V_{GS}=-5V
- Super high-density cell design for extremely low $R_{DS\ (ON)}$
- Exceptional on-resistance and maximum DC current capability
- SOT-323 package design

Applications

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

Packages & Pin Assignments

SOT-323	Equivalent Circuit
 Top Views	

Pin	Description
1	Gate
2	Source
3	Drain

Ordering and Marking Information

Ordering Information

Part Number	Package	Part Marking	Quantity / Reel
GSMBSS84WX5F	SOT-323	PD	3,000 PCS

GSMBSS84 $\boxed{1}\boxed{1}\boxed{2}$

- **Product Code:**
  GSMBSS84W
- **Package Code:**
  $\boxed{1}$ is **X5** for SOT-323
- **Green Level:**
  $\boxed{2}$ is **F** for RoHS Compliant and Halogen Free

Marking Information

PD

- **Product Code:**
  PD

Absolute Maximum Ratings (T$_A$=25ºC unless otherwise noted)

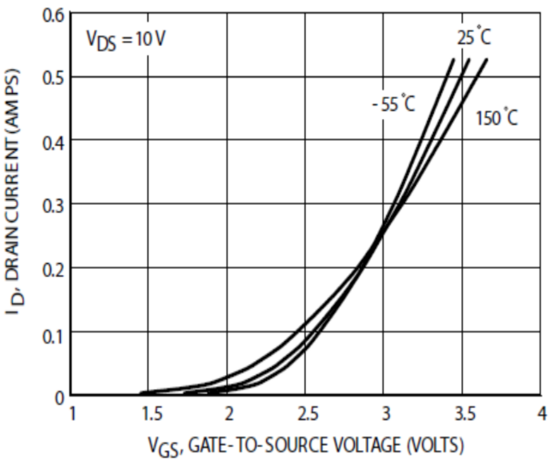
Symbol	Parameter	Value	Unit
V_{DSS}	Drain-Source Voltage	-60	V
V_{GSS}	Gate-Source Voltage	±20	V
I_D	Continuous Drain Current (T$_A$=25℃)	-130	mA
I_{DM}	Pulsed Drain Current (tp≦10us)	-520	mA
I_S	Continuous Current	-0.13	A
P_D	Power Dissipation (T$_A$=25ºC)	225	mW
T_J	Operating Junction Temperature	-55 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.

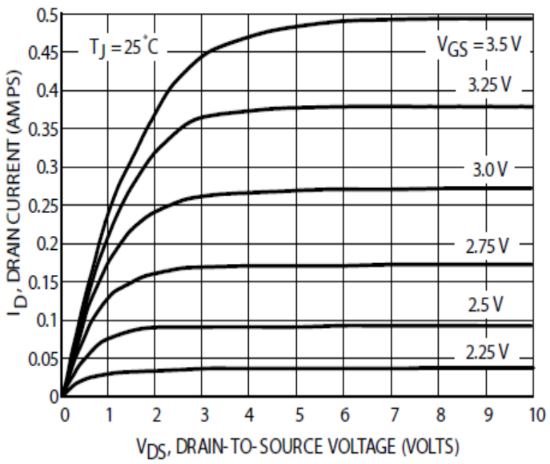
Electrical Characteristics (T_A=25ºC unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
Static characteristics						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	V_{GS}=0V,I_D=-250uA	-60			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			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 characteristics						
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		
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		

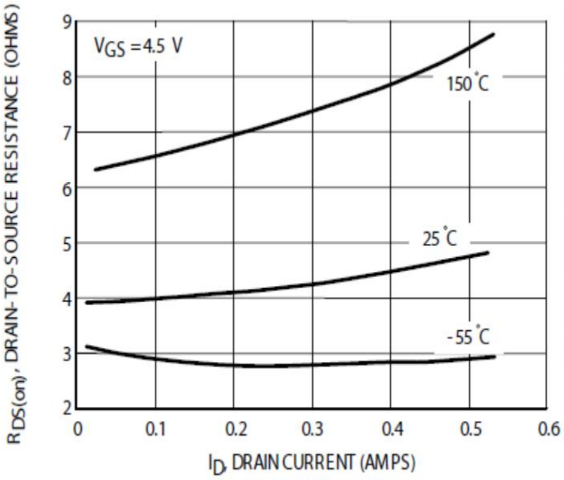
Typical Performance Characteristics



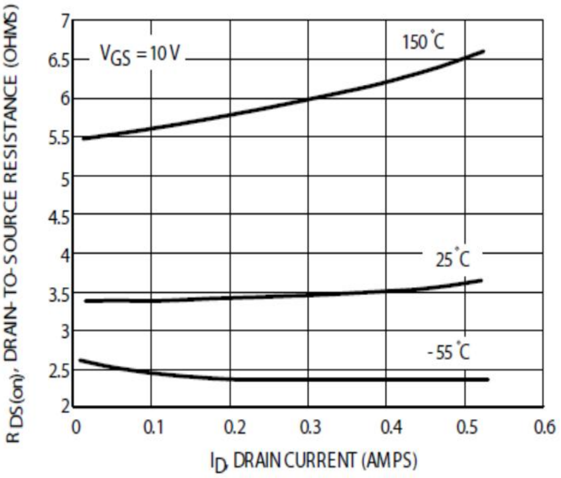
Transfer Characteristics



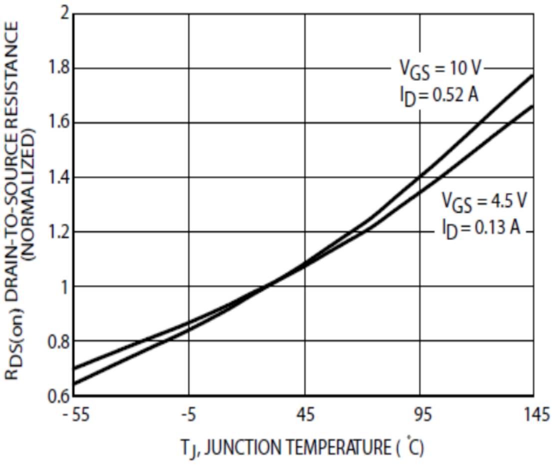
On-Region Characteristics



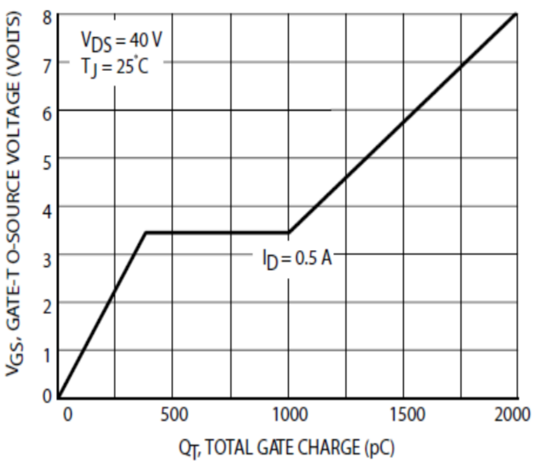
On-Resistance versus Drain Current



On-Resistance versus Drain Current

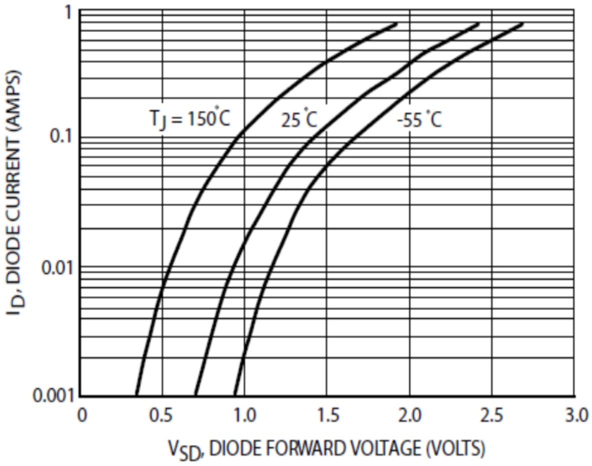


On-Resistance Variation with Temperature



Gate Charge

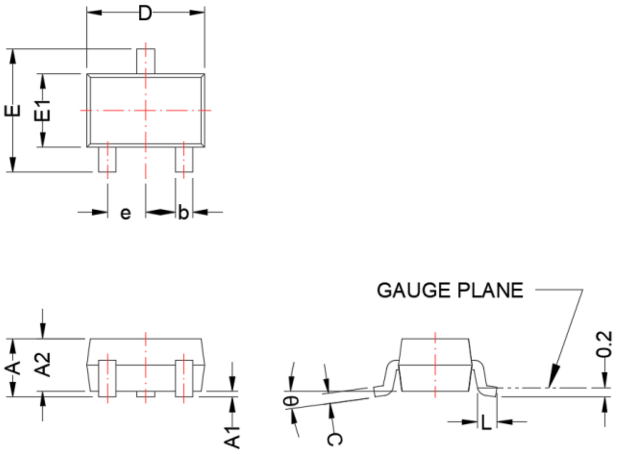
Typical Performance Characteristics **(continue)**



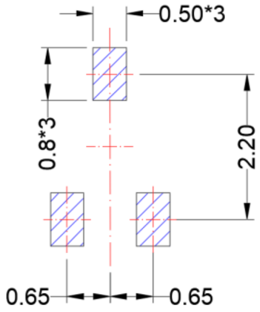
Body Diode Forward Voltage

SOT-323

Package Dimension



Recommended Land Pattern



Unit:mm

Dimensions				
Symbol	**Millimeters**		**Inches**	
	Min	**Max**	**Min**	**Max**
A	0.80	1.10	0.031	0.043
A1	0.00	0.10	0.000	0.004
A2	0.80	1.00	0.031	0.039
b	0.20	0.40	0.008	0.016
c	0.08	0.26	0.003	0.010
D	1.80	2.20	0.071	0.087
E	1.80	2.40	0.071	0.094
E1	1.15	1.35	0.045	0.053
e	0.65 BSC		0.026 BSC	
L	0.26	0.45	0.010	0.018
θ	0°	8°	0°	8°

NOTE:

Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.

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