

GSMBSS84W

60V P-Channel Enhancement Mode MOSFET

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.

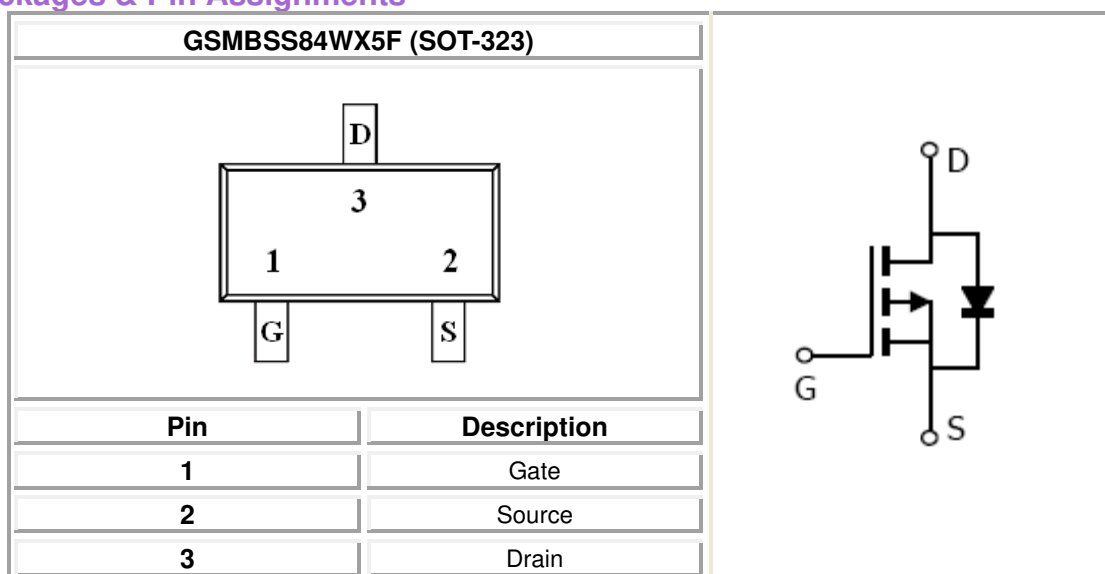
Features

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

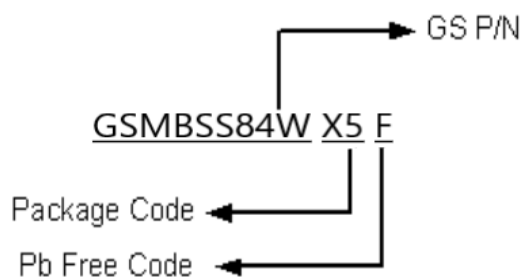
Applications

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

Packages & Pin Assignments

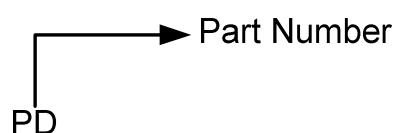


Ordering Information



Part Number	Package	Quantity
GSMBSS84WX5F	SOT-323	3000 PCS

Marking Information



Absolute Maximum Ratings

(T_A=25°C unless otherwise noted)

Symbol	Parameter	Typical	Unit
V _{DSS}	Drain-Source Voltage	-60	V
V _{GSS}	Gate-Source Voltage	±20	V
I _D	Continuous Drain Current (T _A =25°C)	-130	mA
I _{DM}	Pulsed Drain Current (t _{pw} ≤10μs)	-520	mA
I _S	Continuous Current	-0.13	A
P _D	Power Dissipation (T _A =25°C)	225	mW
T _J	Operating Junction Temperature	-55 to 150	°C
T _{STG}	Storage Temperature Range	-55 to 150	°C
R _{θJA}	Maximax Junction to Ambient	556	°C/ W

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

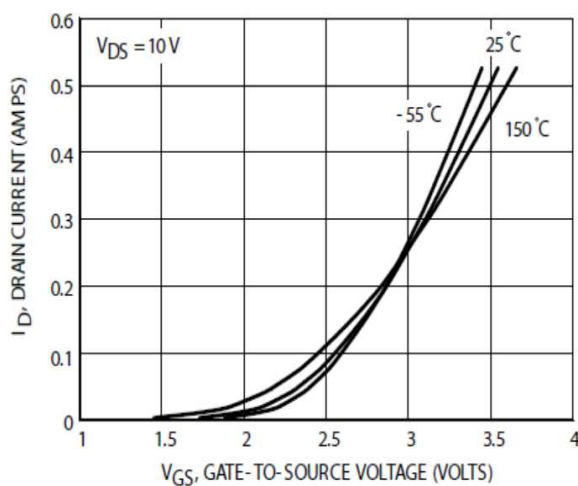
2: Switching Time is Essentially Independent of Operating Temperature.

Electrical Characteristics

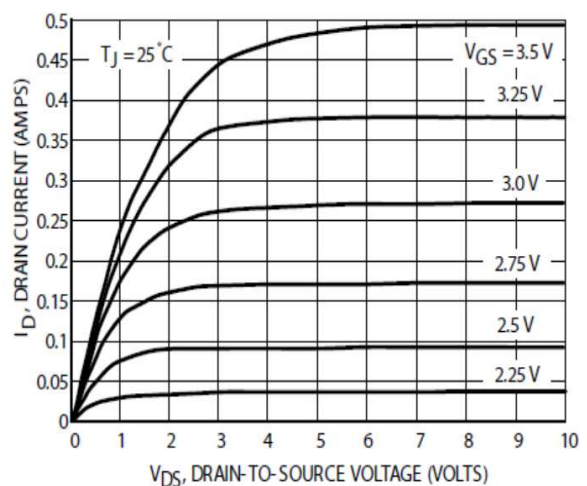
($T_A=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
Static						
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =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						
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

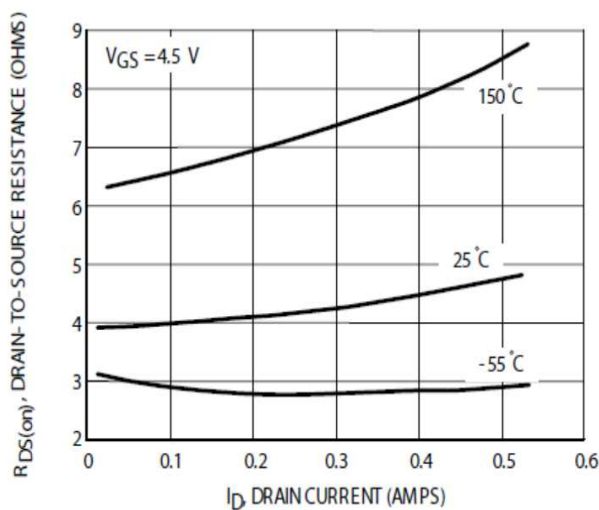


Transfer Characteristics

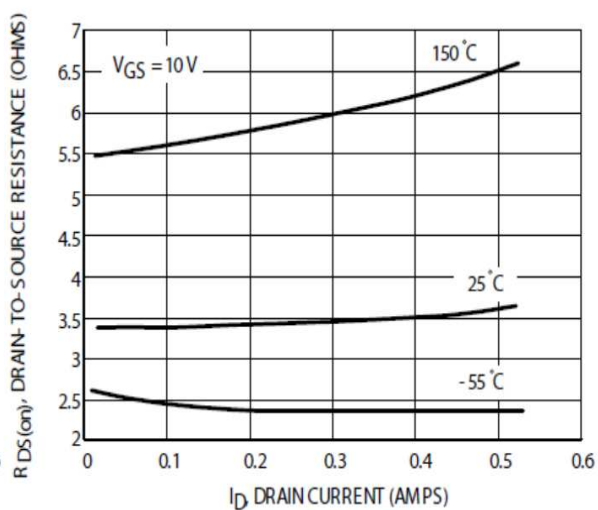


On-Region Characteristics

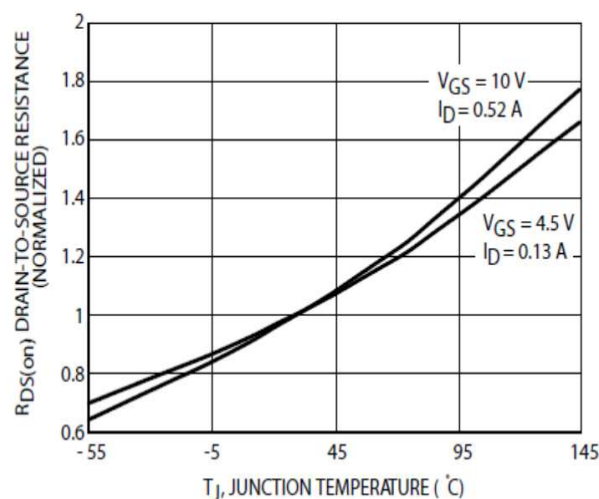
Typical Performance Characteristics (continue)



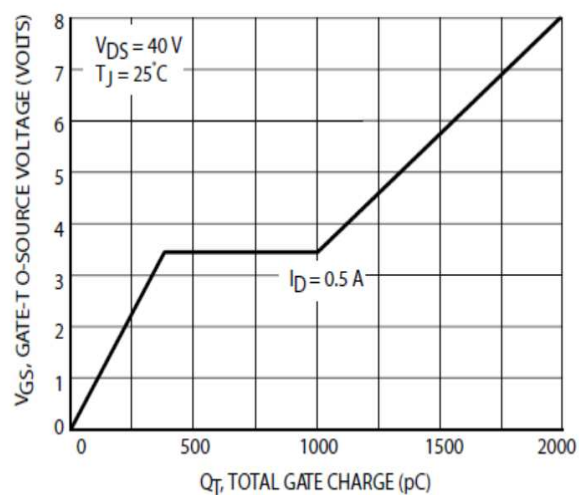
On-Resistance versus Drain Current



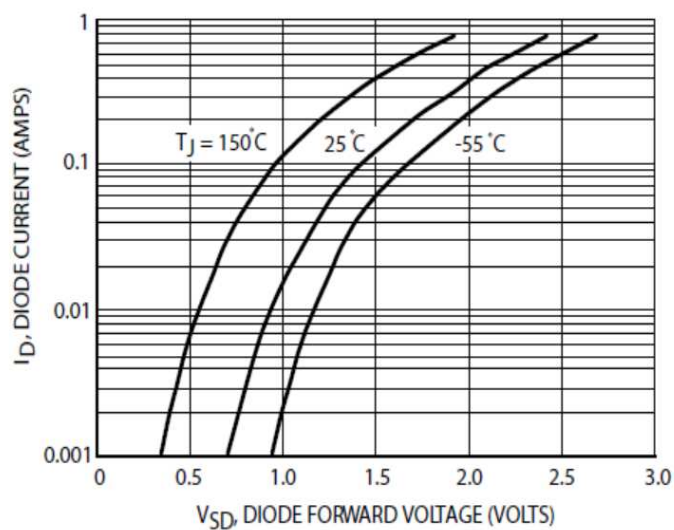
On-Resistance versus Drain Current



On-Resistance Variation with Temperature



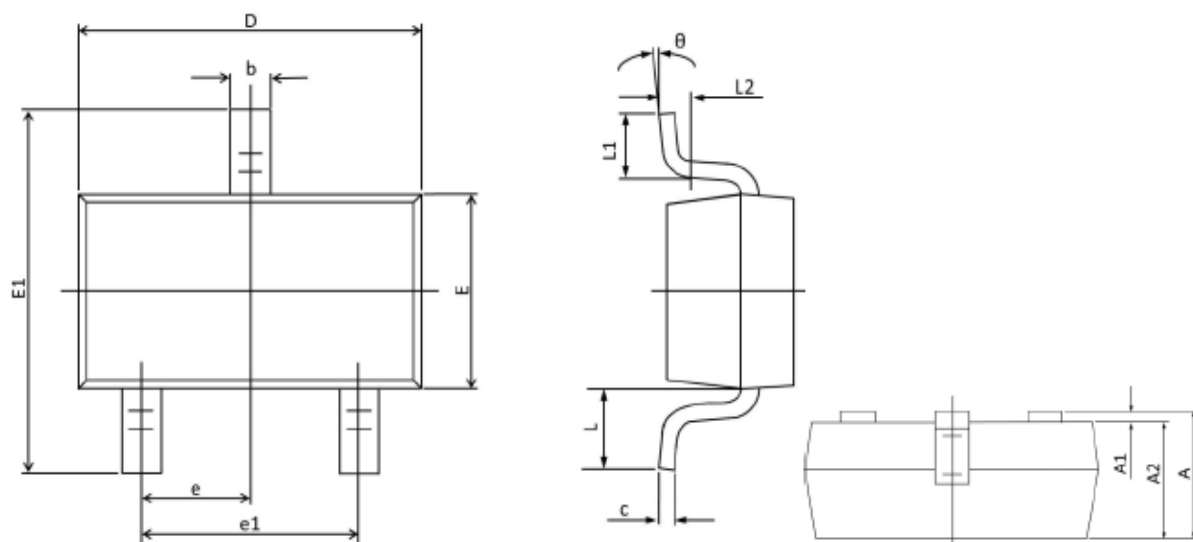
Gate Charge



Body Diode Forward Voltage

Package Dimension

SOT-323



Dimensions

Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	0.800	1.100	0.031	0.043
A1	0.000	0.100	0.000	0.004
A2	0.800	1.000	0.031	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.250	0.003	0.010
D	1.800	2.200	0.071	0.087
E	1.150	1.350	0.045	0.053
E1	1.800	2.450	0.071	0.096
e	0.650 (BSC)		0.026 (BSC)	
e1	1.200	1.40	0.047	0.055
L	0.525 (REF)		0.021 (REF)	
L1	0.150	0.460	0.006	0.018
L2	0.000	0.200	0.000	0.008
θ	0°	8°	0°	8°

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CONTACT US

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

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