LMPBSS84WX5F 60V P-Channel MOSFET

Features

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

Product Description

LMPBSS84WX5F, P-Channel enhancement mode MOSFET, uses Advanced Trench Technology to provide excellent $R_{DS(ON)}$, low gate charge.

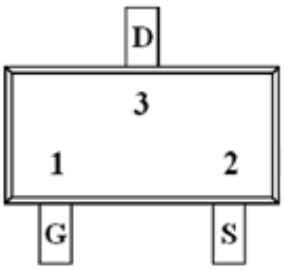
These devices are particularly suited for low voltage power management, such as smart phone and notebook computer and other battery powered circuits, and low in-line power loss are needed in commercial industrial surface mount applications.

Applications

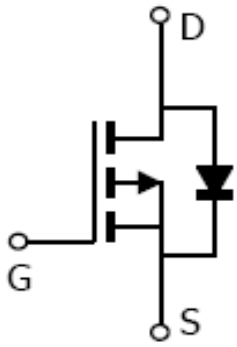
- DC to DC Converter
- Cellular & PCMCIA Card
- Power Management in Portable and Battery etc
- Cordless Telephone

Pin Configuration

LMPBSS84WX5F (SOT-323)



PIN	Description
1	Gate
2	Source
3	Drain



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Ordering Information

Ordering Information					
Part Number	P/N	PKG code	Pb Free code	Package	Quantity
LMPBSS84WX5F	LMPBSS84W	X5	F	SOT-323	3000

Marking Information

Marking Information		
Part Marking	Part Number	LFC code
PD	P	D

Absolute Maximum Ratings

(T_C=25ºC 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℃)	-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.

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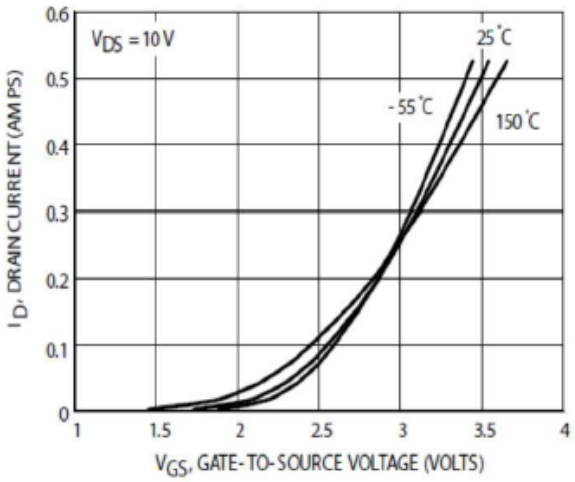
Electrical Characteristics

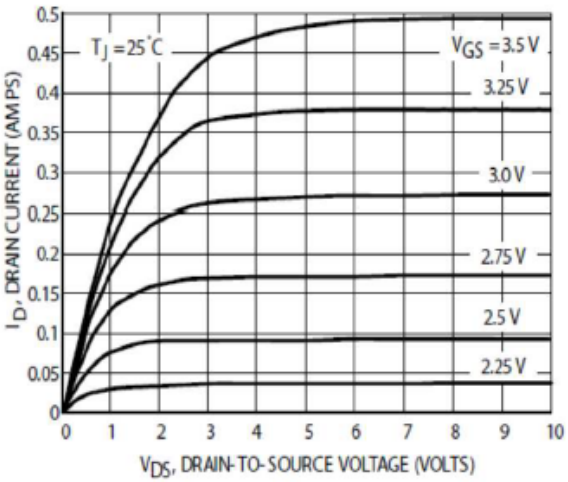
(T_C=25ºC Unless otherwise noted)

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	V
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	uA
$R_{DS(on)}$	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		pF
C_{rss}	Reverse Transfer Capacitance			5.0		pF
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		ns
$t_{d(off)}$	Turn-Off Time			16		ns
t_f				8.0		ns

Typical Performance Characteristics



Transfer Characteristics



On-Region Characteristics

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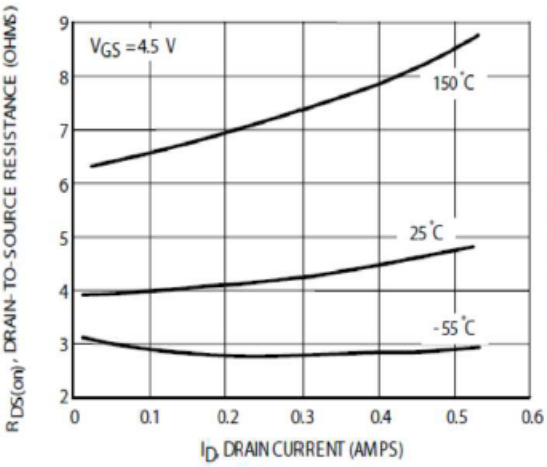
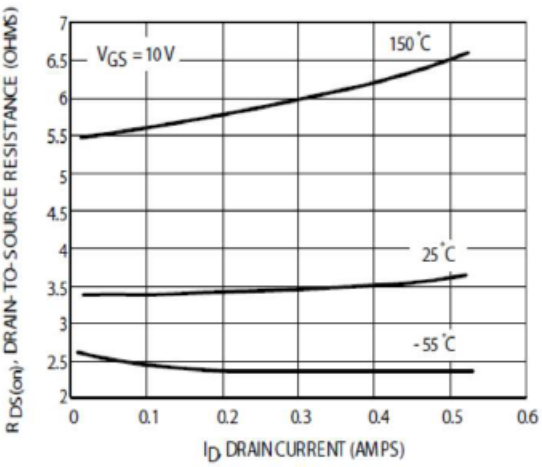
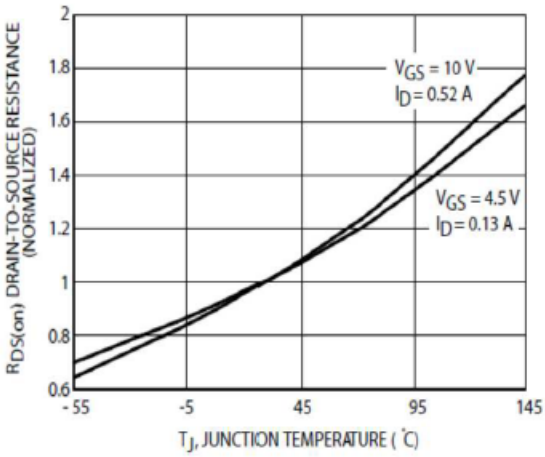
Typical Performance Characteristics(continue)



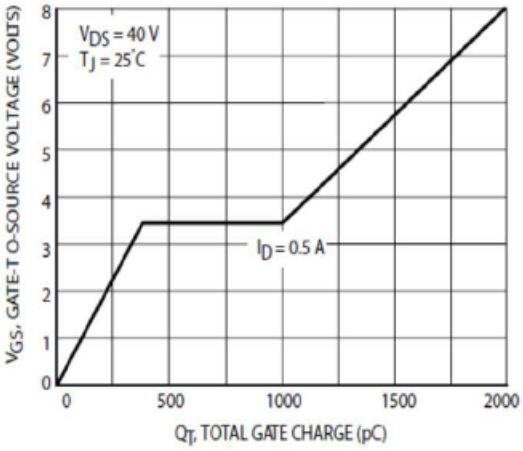
On-Resistance versus Drain Current



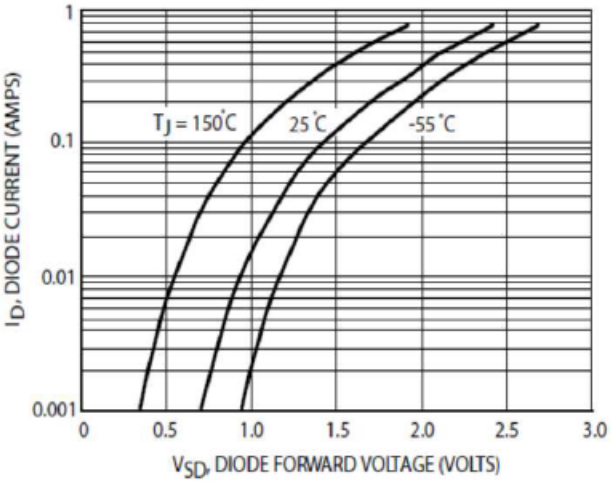
On-Resistance versus Drain Current



On-Resistance Variation with Temperature



Gate Charge



Body Diode Forward Voltage

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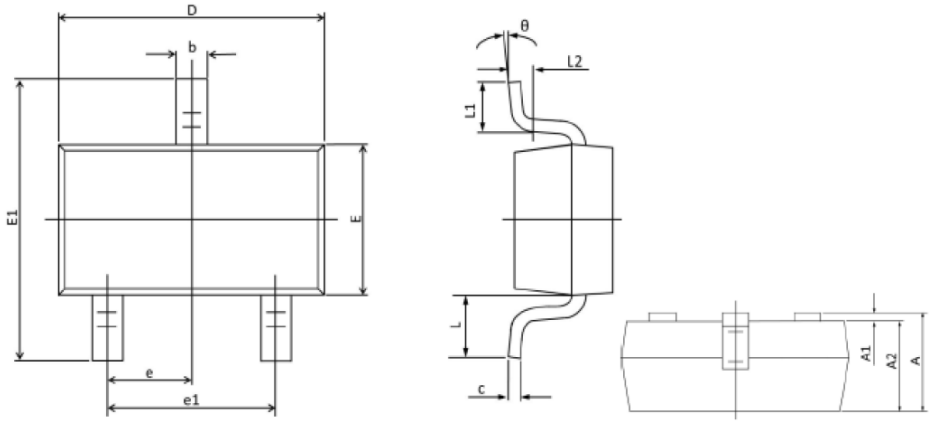
Package Dimension:

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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