

POWER MOSFET

P-CHANNEL 130mAmps,50Volts

These miniature surface mount MOSFETs reduce power loss conserve energy, making this device ideal for use in small power management circuitry. Typical applications are dc-dc converters, load switching , power management in portable and battery-powered products such as computers , printers , cellular and cordless telephones.

●FEATURES

- 1)Energy Efficient
- 2)Miniature SOT-323 Surface Mount Package Saves Board Space
- 3)We declare that the material of product compliant with RoHS requirements and Halogen Free.
- 4)S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

●DEVICE MARKING AND ORDERING INFORMATION

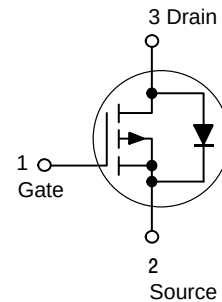
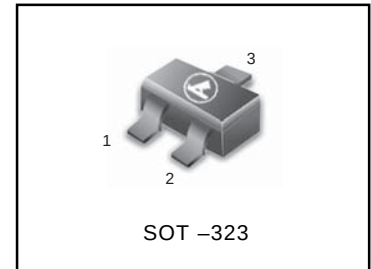
Device	Marking	Shipping
LBSS84WT1G	PD	3000/Tape&Reel
LBSS84WT3G	PD	10000/Tape&Reel

●MAXIMUM RATINGS($T_A = 25^\circ\text{C}$)

Parameter	Symbol	Limits	Unit
Drain-to-Source Voltage	V_{DS}	50	V
Gate-to-Source Voltage – Continuous	V_{GS}	± 20	V
Drain Current			mA
– Continuous @ $T_A = 25^\circ\text{C}$	I_D	130	
– Pulsed Drain Current ($t_p \leq 10 \mu\text{s}$)	I_{DM}	520	
Total Power Dissipation @ $T_A = 25^\circ\text{C}$	P_D	225	mW
Junction and Storage temperature	T_j, T_{stg}	$-55 \sim +150$	$^\circ\text{C}$
Thermal Resistance – Junction-to-Ambient	$R_{\theta JA}$	556	$^\circ\text{C/W}$
Maximum Lead Temperature for Soldering Purposes, for 10 seconds	T_L	260	$^\circ\text{C}$

LBSS84WT1G

S-LBSS84WT1G



LBSS84WT1G, S-LBSS84WT1G

● ELECTRICAL CHARACTERISTICS (Ta= 25°C)

OFF CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Drain-to-Source Breakdown Voltage (V _{GS} = 0 Vdc, I _D = 250 μAdc)	V _{BR(DSS)}	50	—	—	V
Zero Gate Voltage Drain Current (V _{DS} = 25 Vdc, V _{GS} = 0 Vdc)	I _{DSS}	—	—	0.1	μA
(V _{DS} = 50 Vdc, V _{GS} = 0 Vdc)		—	—	15	
(V _{DS} = 50 Vdc, V _{GS} = 0 Vdc, T _J = 125°C)		—	—	60	
Gate-Body Leakage Current (V _{GS} = ± 20 Vdc, V _{DS} = 0 Vdc)	I _{GSS}	—	—	±10	nA

ON CHARACTERISTICS (Note 1.)

Gate-Source Threshold Voltage (V _{DS} = V _{GS} , I _D = 250μAdc)	V _{GS(th)}	0.8	—	2.0	V
Static Drain-to-Source On-Resistance (V _{GS} = 5.0 Vdc, I _D = 100 mAdc)	R _{DS(on)}	—	5.0	10	Ohms
Transfer Admittance (V _{DS} = 25 Vdc, I _D = 100 mAdc, f = 1.0 kHz)	y _{fs}	50	—	—	mS

DYNAMIC CHARACTERISTICS

Input Capacitance(V _{DS} = 5.0 Vdc)	C _{iss}	—	30	—	pF
Output Capacitance(V _{DS} = 5.0 Vdc)	C _{oss}	—	10	—	
Transfer Capacitance(V _{DG} = 5.0 Vdc)	C _{rss}	—	5	—	

SWITCHING CHARACTERISTICS (Note 2.)

Turn-On Delay Time	(V _{DD} = -15 Vdc, I _D = -2.5 Adc, R _L = 50 Ω)	t _{d(on)}	—	2.5	—	ns
Rise Time		t _r	—	1	—	
Turn-Off Delay Time		t _{d(off)}	—	16	—	
Fall Time		t _f	—	8	—	
Gate Charge		Q _T	—	6000	—	pC

SOURCE-DRAIN DIODE CHARACTERISTICS

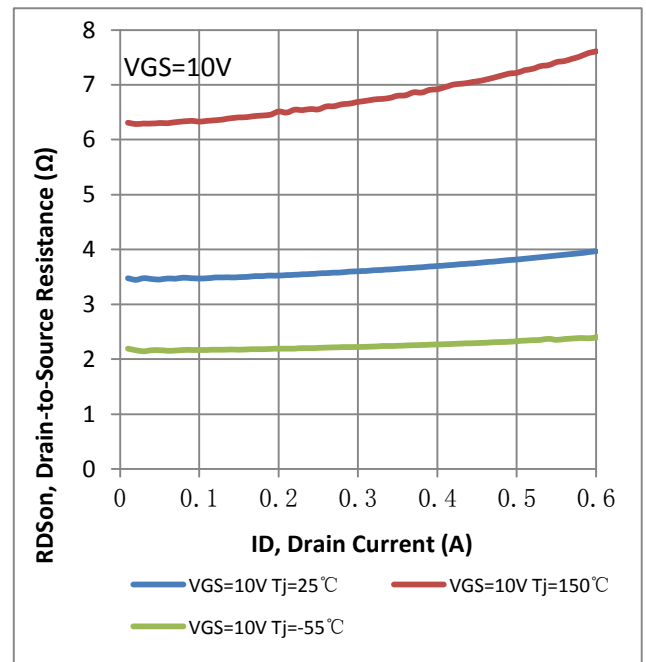
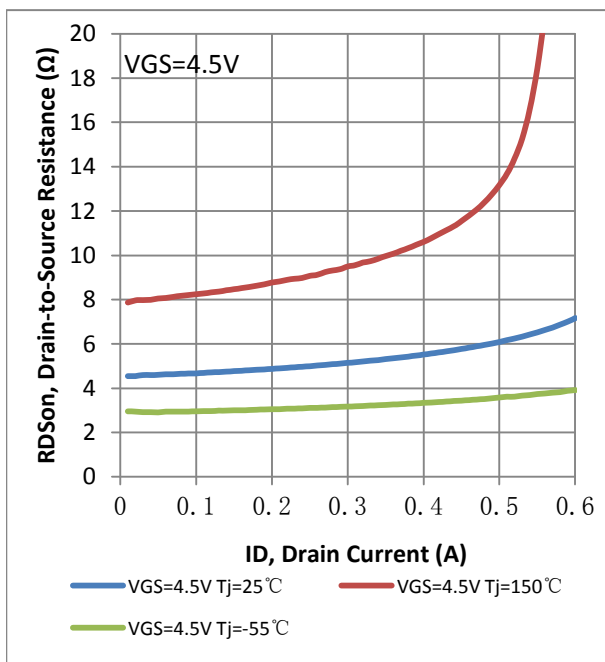
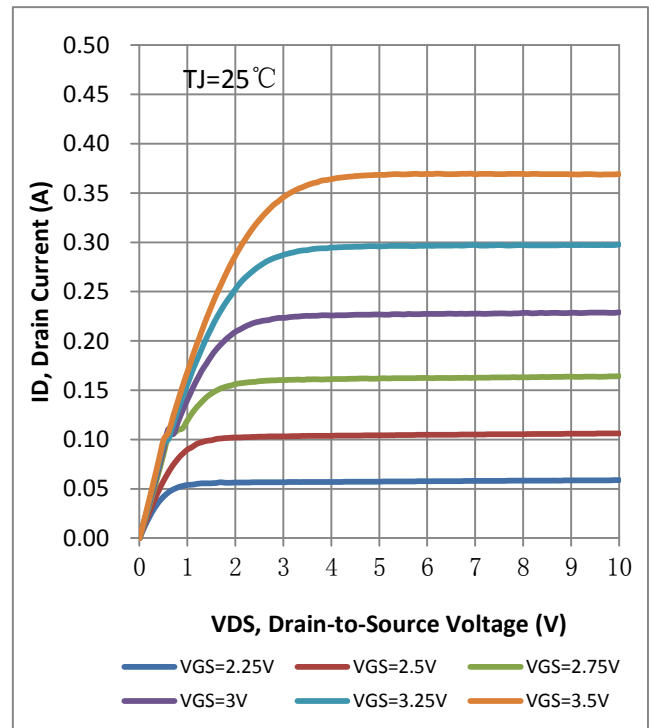
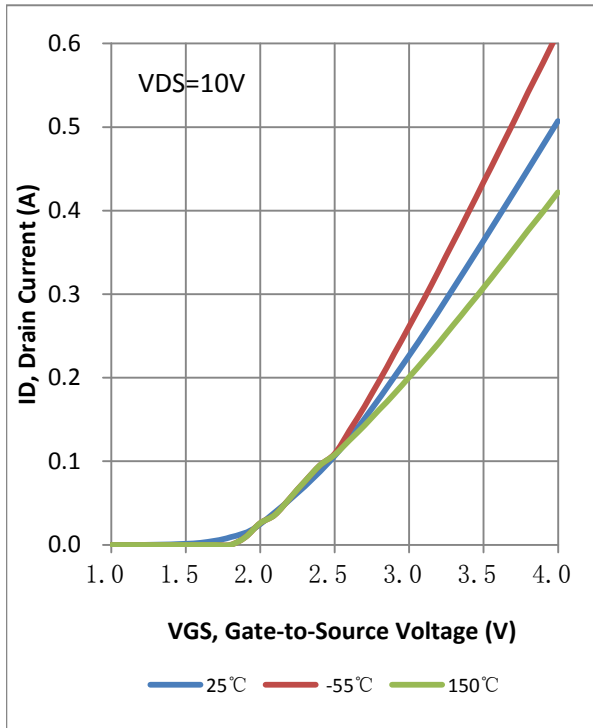
Continuous Current	I _S	—	—	0.13	A
Pulsed Current	I _{SM}	—	—	0.52	
Forward Voltage (Note 2.)	V _{SD}	—	2.5	—	V

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

2. Switching characteristics are independent of operating junction temperature.

LBSS84WT1G, S-LBSS84WT1G

ELRCTRICAL CHARACTERISTICS CURVES



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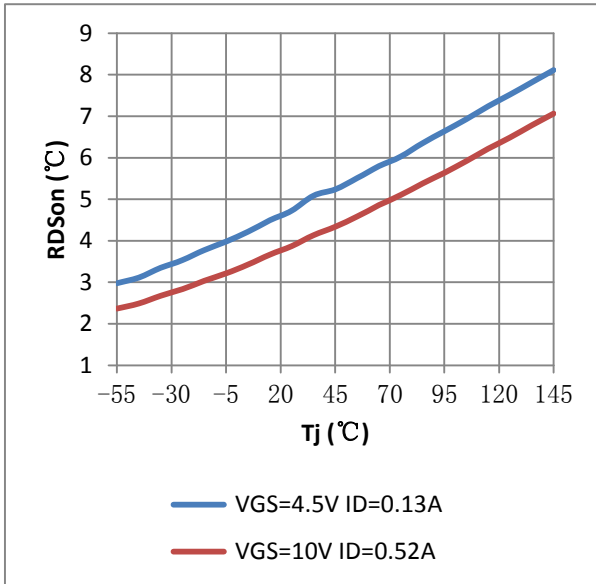


FIG.5 On-Resistance Variation with Temperature

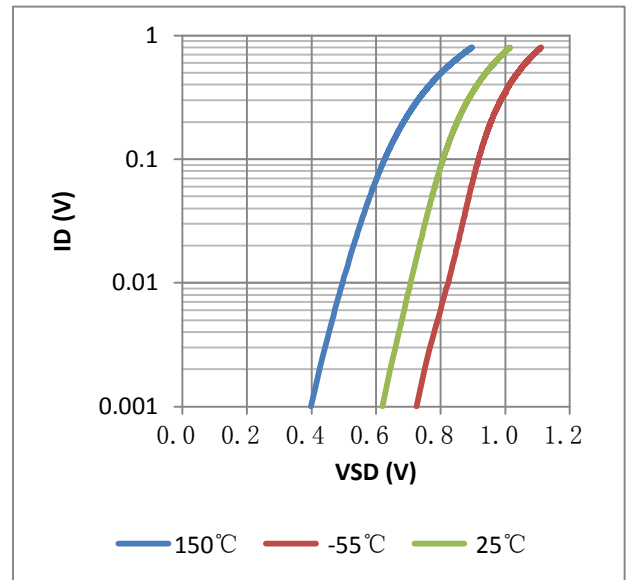
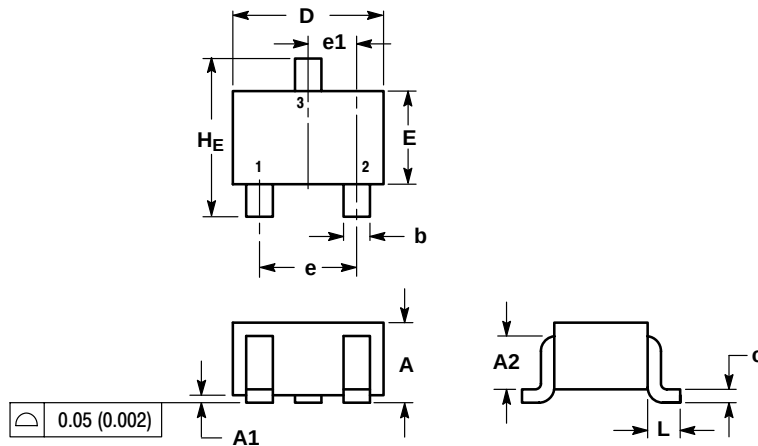


FIG.6 Body Diode Forward Voltage

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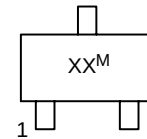
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- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.90	1.00	0.032	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A2	0.7 REF			0.028 REF		
b	0.30	0.35	0.40	0.012	0.014	0.016
c	0.10	0.18	0.25	0.004	0.007	0.010
D	1.80	2.10	2.20	0.071	0.083	0.087
E	1.15	1.24	1.35	0.045	0.049	0.053
e	1.20	1.30	1.40	0.047	0.051	0.055
e1	0.65 BSC			0.026 BSC		
L	0.425 REF			0.017 REF		
H	2.00	2.10	2.40	0.079	0.083	0.095

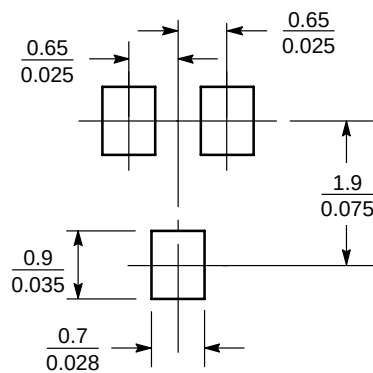
GENERIC MARKING DIAGRAM



- XX = Specific Device Code
M = Date Code
▪ = Pb-Free Package

*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "▪", may or may not be present.

SOLDERING FOOTPRINT*



SCALE 10:1 ($\frac{\text{mm}}{\text{inches}}$)