

POWER MOSFET

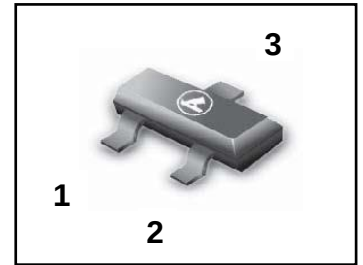
P-CHANNEL 130mAmps,50Volts

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.

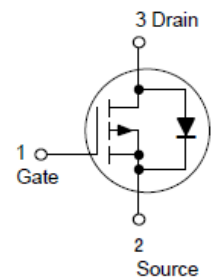
●FEATURES

- 1)Energy Efficient
- 2)Miniature SOT-23 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.

LBSS84LT1G S-LBSS84LT1G



SOT-23



●DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LBSS84LT1G	PD	3000/Tape&Reel
LBSS84LT3G	PD	10000/Tape&Reel

●MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Drain-to-Source Voltage	V _{DSS}	50	V
Gate-to-Source Voltage – Continuous	V _{GS}	±20	V
Drain Current			mA
– Continuous @ T _A = 25°C	I _D	130	
– Pulsed Drain Current (t _p ≤ 10 μs)	I _{DM}	520	
Total Power Dissipation @ T _A = 25°C	P _D	225	mW
Junction and Storage temperature	T _j , T _{stg}	–55 ~ +150	°C
Thermal Resistance – Junction-to-Ambient	R _{θJA}	556	°C/W
Maximum Lead Temperature for Soldering Purposes, for 10 seconds	T _L	260	°C

LBSS84LT1G, S-LBSS84LT1G

● 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 = 250 μAdc)	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.

LBSS84LT1G, S-LBSS84LT1G

ELRCTRICAL CHARACTERISTICS CURVES

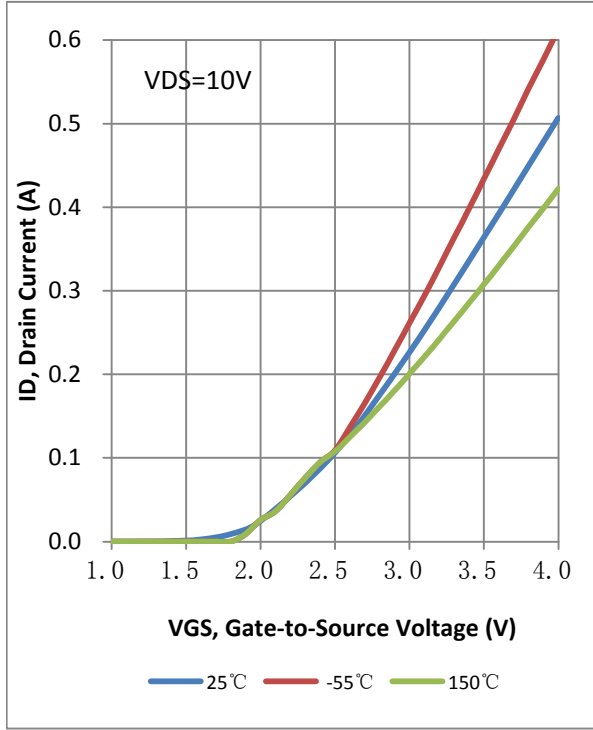


FIG. 1 Transfer Characteristics

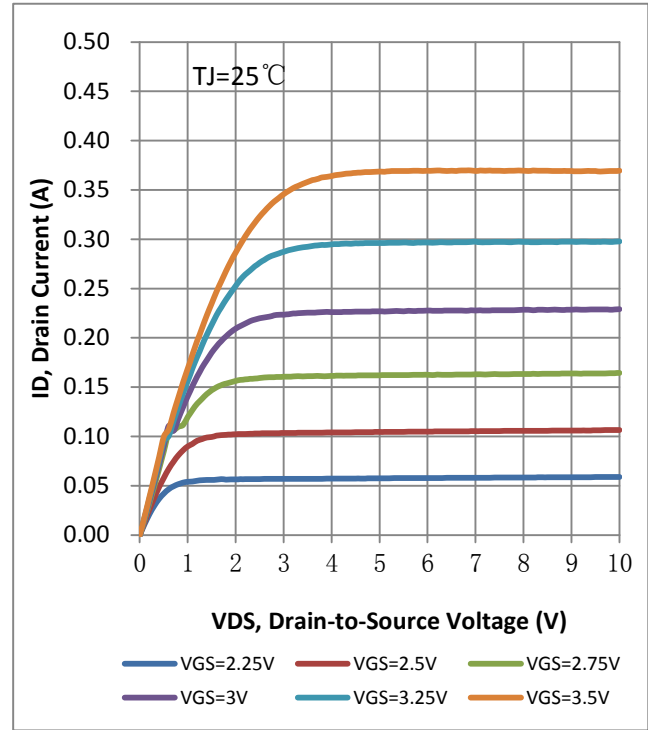


FIG. 2 On-Region Characteristics

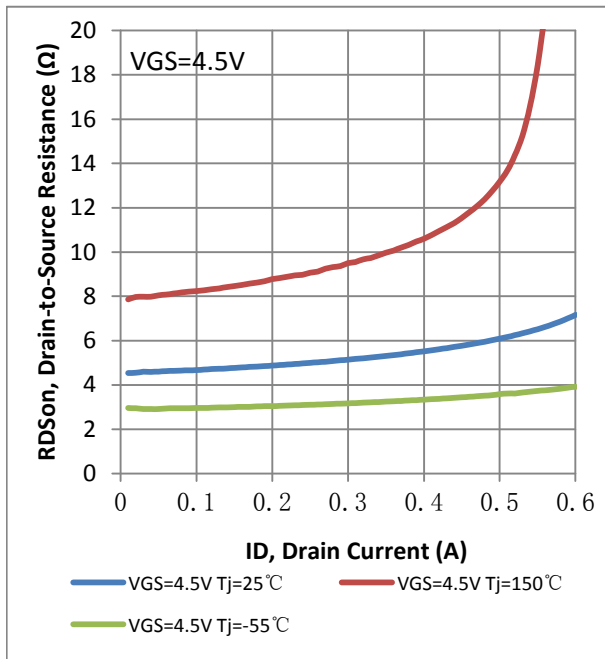


FIG. 3 On-Resistance versus Drain Current

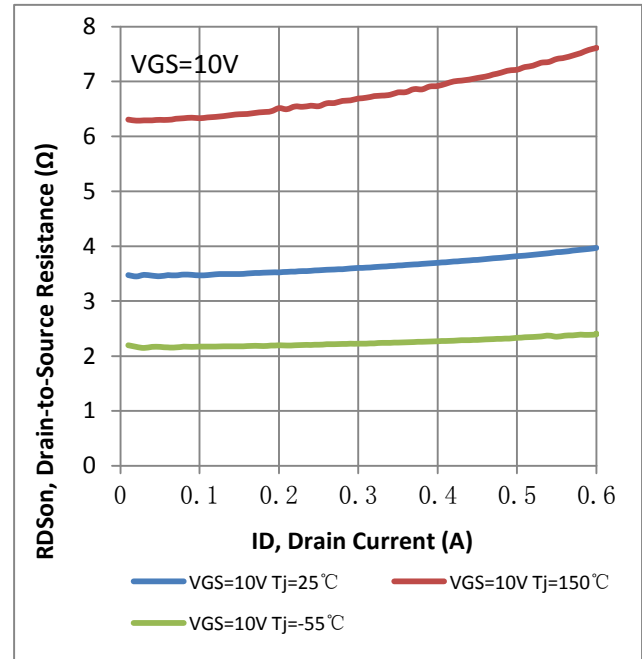


FIG. 4 On-Resistance versus Drain Current

LBSS84LT1G, S-LBSS84LT1G

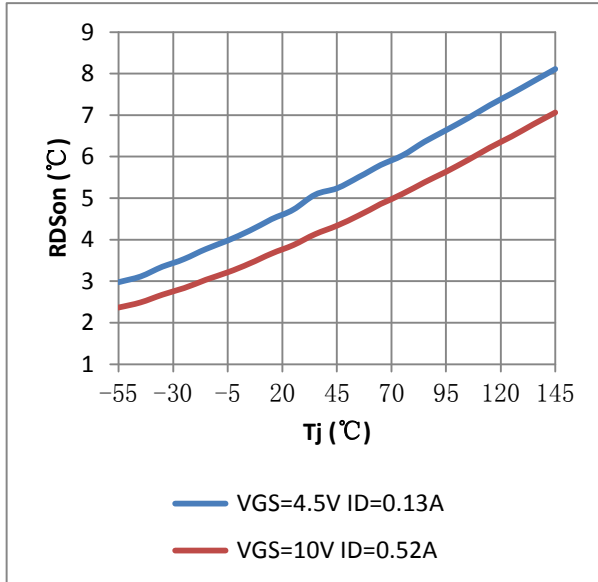


FIG. 5 On-Resistance Variation with Temperature

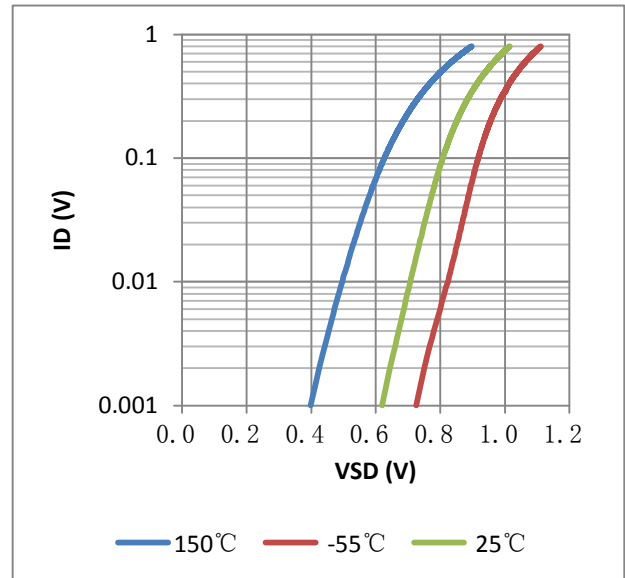


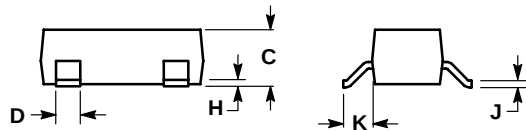
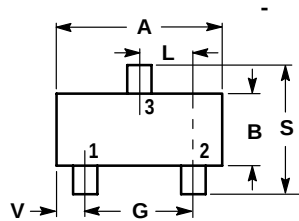
FIG. 6 Body Diode Forward Voltage

LBSS84LT1G, S-LBSS84LT1G

SOT-23

NOTES:

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



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10	2.64
V	0.0177	0.0236	0.45	0.60

