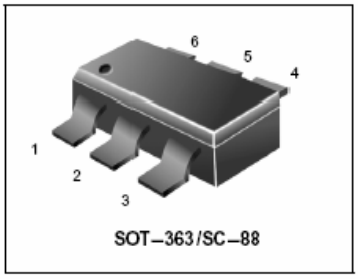
Power MOSFET
130 mAmps, 50 Volts
P–Channel SC88

LBSS84DW1T1G
S-LBSS84DW1T1G

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.

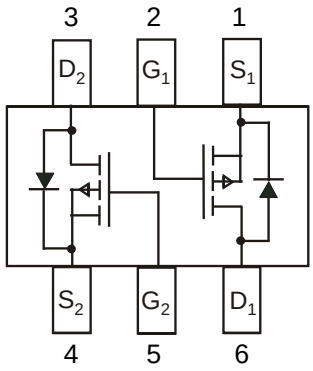
- Energy Efficient
- Miniature SC88 Surface Mount Package Saves Board Space
- Pb-Free Package is available.
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.



SOT–363/SC–88

MAXIMUM RATINGS (T_J = 25°C unless otherwise noted)

Rating	Symbol	Value	Unit
Drain–to–Source Voltage	V_{DSS}	50	Vdc
Gate–to–Source Voltage – Continuous	V_{GS}	± 20	Vdc
Drain Current – Continuous @ T_A = 25°C – Pulsed Drain Current ($t_p \le 10$ μs)	 I_D I_{DM}	 130 520	mA
Total Power Dissipation @ T_A = 25°C	P_D	380	mW
Operating and Storage Temperature Range	T_J, T_{stg}	– 55 to 150	°C
Thermal Resistance – Junction–to–Ambient	$R_{\theta JA}$	328	°C/W
Maximum Lead Temperature for Soldering Purposes, for 10 seconds	T_L	260	°C



ORDERING INFORMATION

Device	Marking	Shipping
LBSS84DW1T1G S-LBSS84DW1T1G	PD	3000 Tape & Reel
LBSS84DW1T1G S-LBSS84DW1T1G	PD	10000 Tape & Reel

LBSS84DW1T1G , S-LBSS84DW1T1G

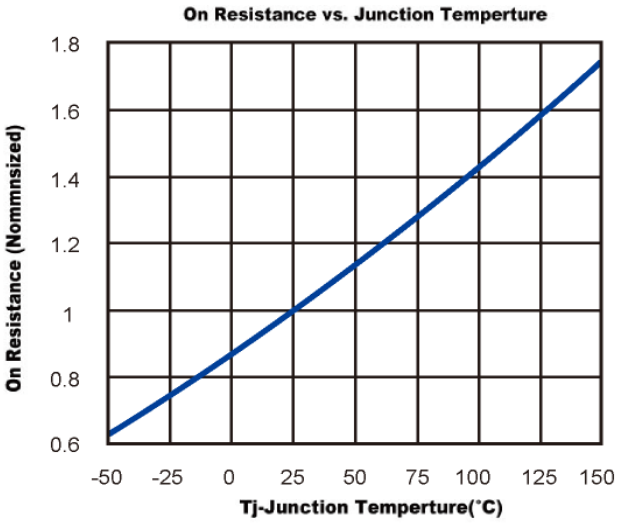
ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

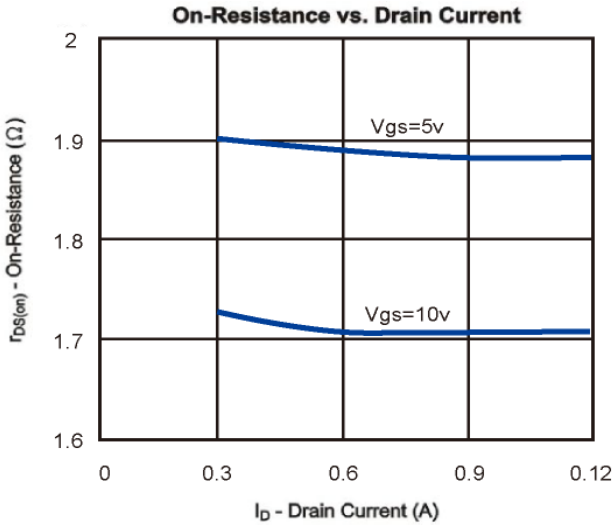
Characteristic		Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain–to–Source Breakdown Voltage (V_{GS} = 0 Vdc, I_D = 250 μAdc)		$V_{(BR)DSS}$	50	–	–	Vdc
Zero Gate Voltage Drain Current (V_{DS} = 25 Vdc, V_{GS} = 0 Vdc) (V_{DS} = 50 Vdc, V_{GS} = 0 Vdc) (V_{DS} = 50 Vdc, V_{GS} = 0 Vdc, T_J = 125°C)		I_{DSS}	 – – –	 – – –	 0.1 15 60	μAdc
Gate–Body Leakage Current (V_{GS} = ± 20 Vdc, V_{DS} = 0 Vdc)		I_{GSS}	–	–	±100	nAdc
ON CHARACTERISTICS (Note 1.)						
Gate–Source Threaded Voltage (V_{DS} = V_{GS}, I_D = 250μAdc)		$V_{GS(th)}$	0.8	–	2.0	Vdc
Static Drain–to–Source On–Resistance (V_{GS} = 5.0 Vdc, I_D = 100 mAdc)		$r_{DS(on)}$	–	5.0	10	Ohms
DYNAMIC CHARACTERISTICS						
Input Capacitance	(V_{DS} = 5.0 Vdc)	C_{iss}	–	42	–	pF
Output Capacitance	(V_{DS} = 5.0 Vdc)	C_{oss}	–	20	–	
Transfer Capacitance	(V_{DG} = 5.0 Vdc)	C_{rss}	–	4	–	
SWITCHING CHARACTERISTICS (Note 2.)						
Turn–On Delay Time	(V_{DD} = –15 Vdc, I_D = –2.5 Adc, R_L = 50 Ω)	$t_{d(on)}$	–	13	–	ns
Rise Time		t_r	–	6	–	
Turn–Off Delay Time		$t_{d(off)}$	–	16	–	
Fall Time		t_f	–	3	–	
Gate Charge		Q_T	–	6000	–	pC

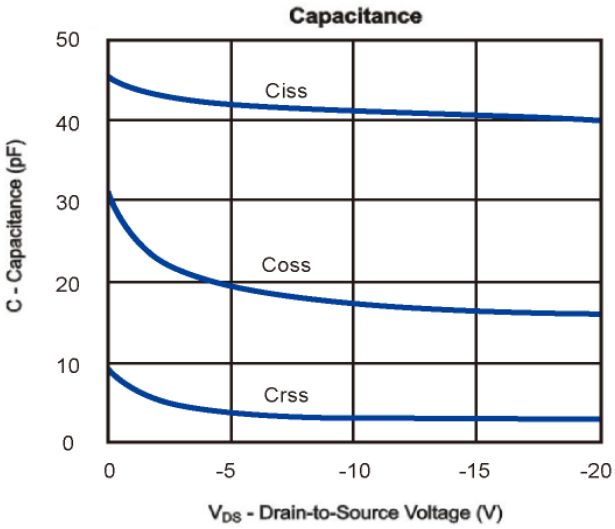
1. Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2%.
2. Switching characteristics are independent of operating junction temperature.

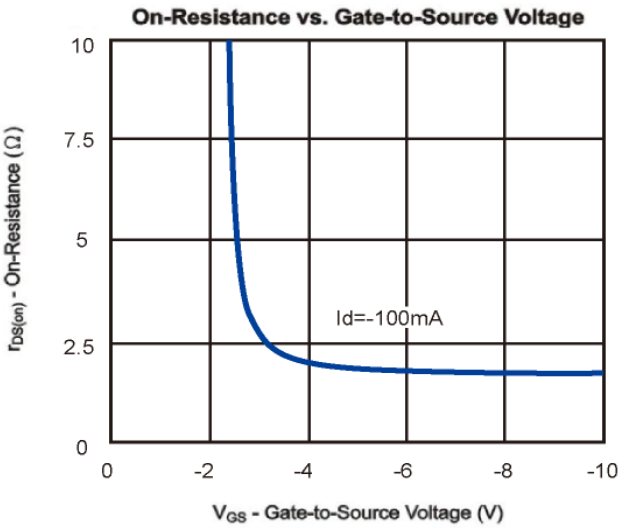
LBSS84DW1T1G , S-LBSS84DW1T1G

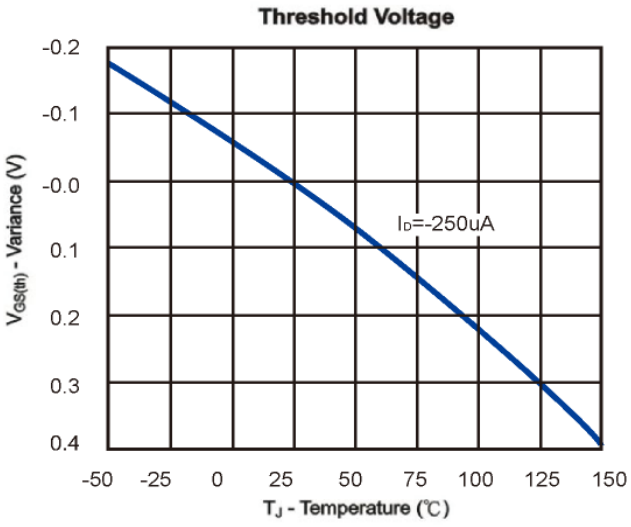
Typical Characteristics (TA =25℃ Noted)

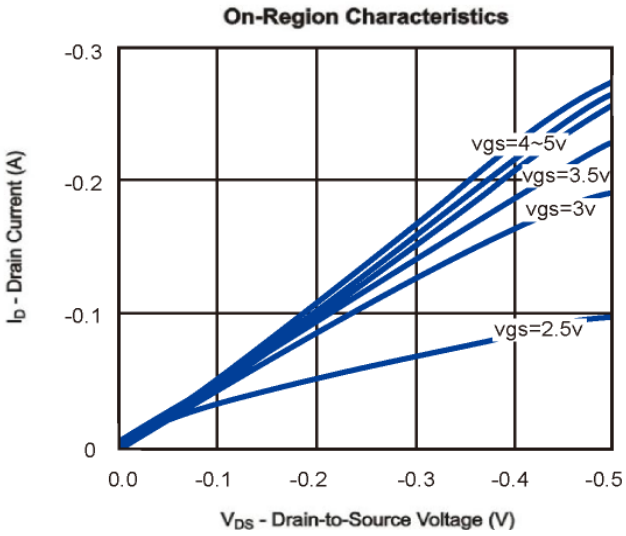




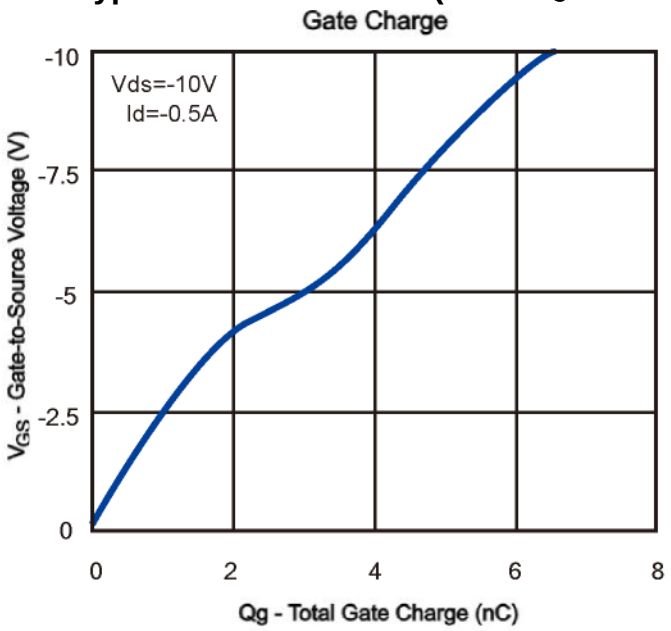


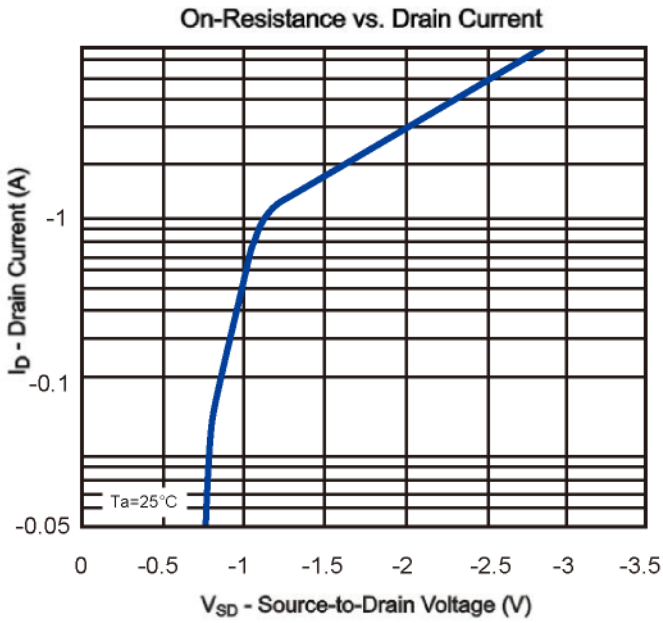




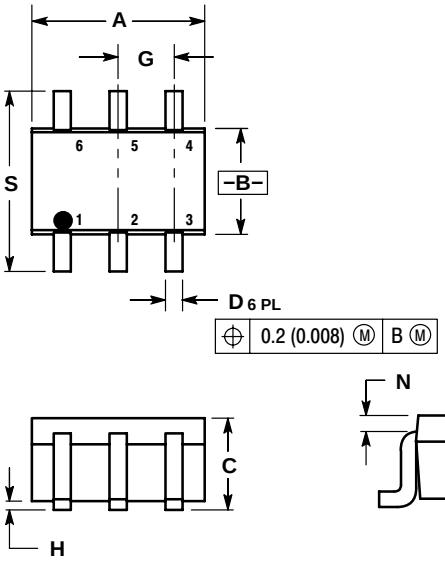


Typical Characteristics (T =25℃ Noted)





SC−88 (SOT−363)
CASE 419B−02
ISSUE T



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. 419B−01 OBSOLETE, NEW STANDARD 419B−02.

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	0.071	0.087	1.80	2.20
B	0.045	0.053	1.15	1.35
C	0.031	0.043	0.80	1.10
D	0.004	0.012	0.10	0.30
G	0.026 BSC		0.65 BSC	
H	−−−	0.004	−−−	0.10
J	0.004	0.010	0.10	0.25
K	0.004	0.012	0.10	0.30
N	0.008 REF		0.20 REF	
S	0.079	0.087	2.00	2.20

STYLE 1:
PIN 1. EMITTER 2
2. BASE 2
3. COLLECTOR 1
4. EMITTER 1
5. BASE 1
6. COLLECTOR 2

SOLDERING FOOTPRINT*