

# LP1488WT1G

## -20V P-Channel Power Mosfet

### 1. FEATURES

- $V(BR)_{DSS} = -20V$   
 $R_{DS(ON)} \leq 150m\Omega @ V_{GS} = -2.5V, I_D = -1.0A$   
 $R_{DS(ON)} \leq 120m\Omega @ V_{GS} = -4.5V, I_D = -1.0A$
- We declare that the material of product compliance with RoHS requirements and Halogen Free.

### 2. APPLICATIONS

- Power Management in Note book
- Portable Equipment
- Battery Powered System
- Load Switch
- DSC

### 3. DEVICE MARKING AND RESISTOR VALUES

Device	Marking	Shipping
LP1488WT1G	W18	3000/Tape&Reel

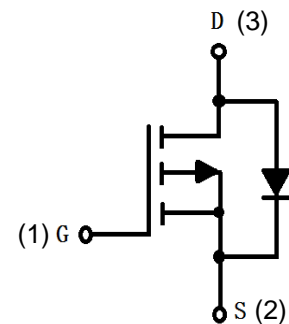
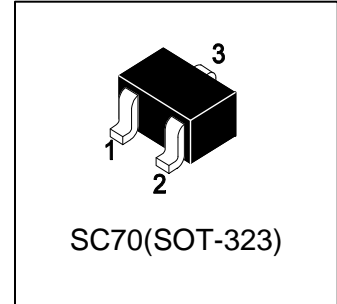
### 4. MAXIMUM RATINGS( $T_a = 25^\circ C$ )

Parameter	Symbol	Limits	Unit
Drain-Source voltage	V <sub>DS</sub>	-20	V
Gate-Source Voltage	V <sub>GS</sub>	±8	V
Continuous Drain Current	Steady-State @ $t \leq 5s$	-1.4	A
		-1.5	
Pulse Drain Current @ $T_p = 10\mu s$	IDM	-3.0	

### 5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Power Dissipation FR-4 Board (Note 1) @ $T_A = 25^\circ C$ @ $T_A = 70^\circ C$	PD	0.29	W
		0.19	
Thermal Resistance, Junction-to-Ambient(Note 1)	R <sub>θJA</sub>	430	°C/W
Junction and Storage temperature	T <sub>J</sub> , T <sub>stg</sub>	-55~+150	°C

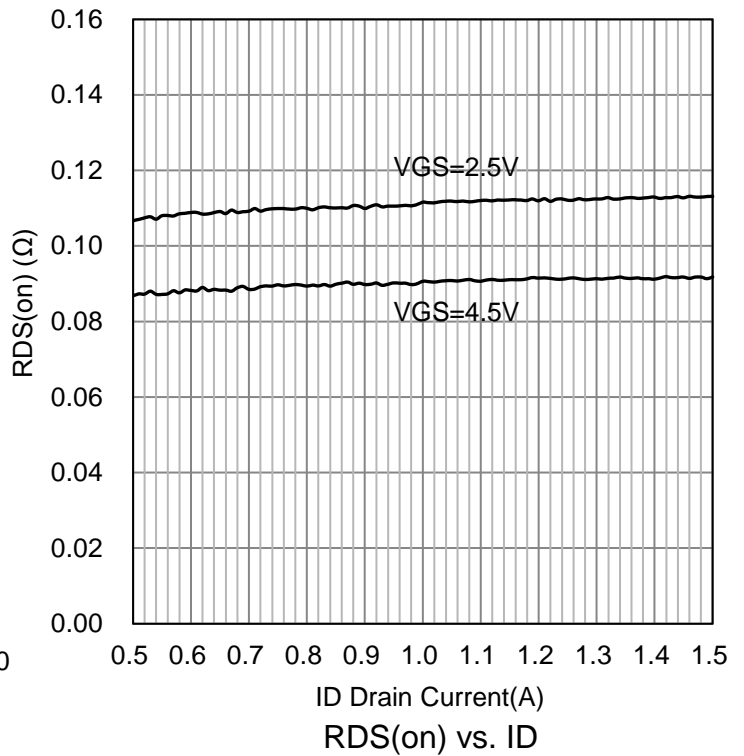
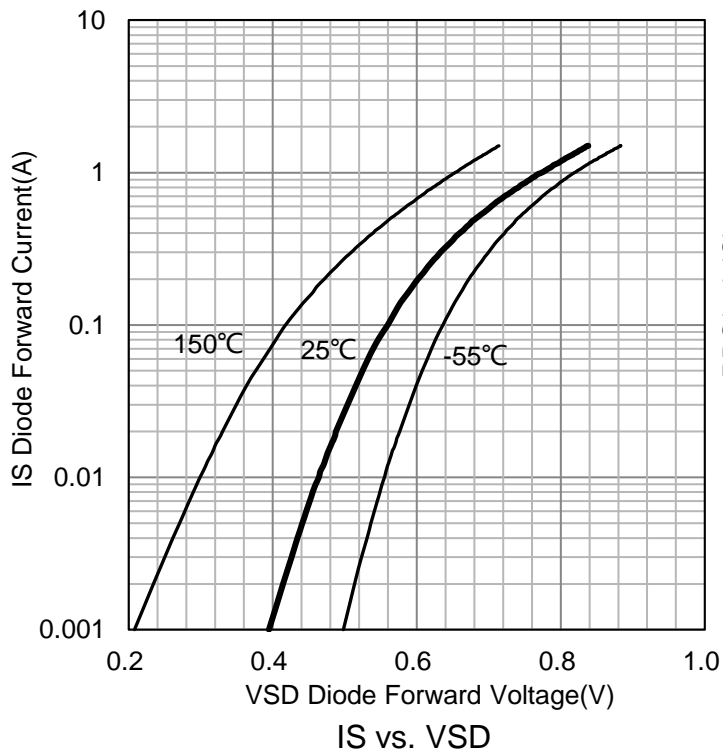
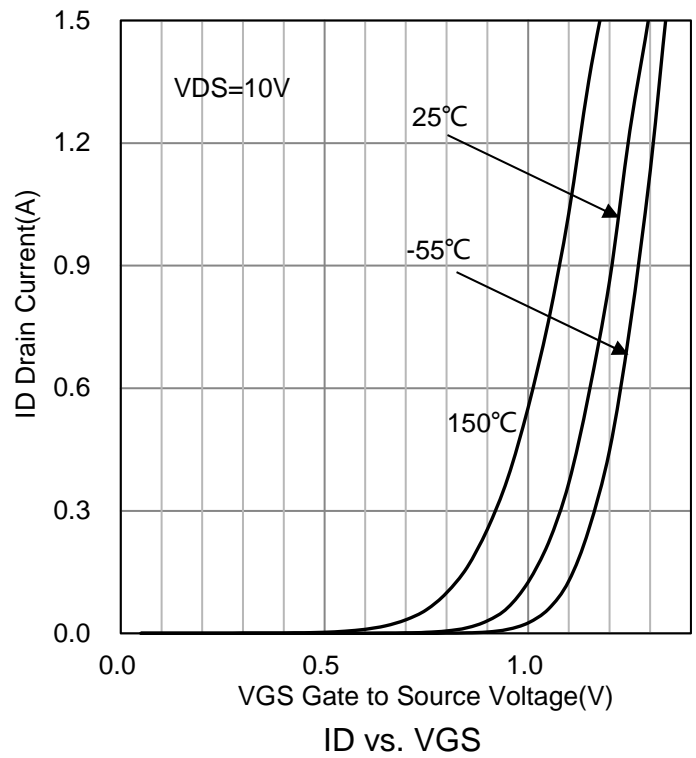
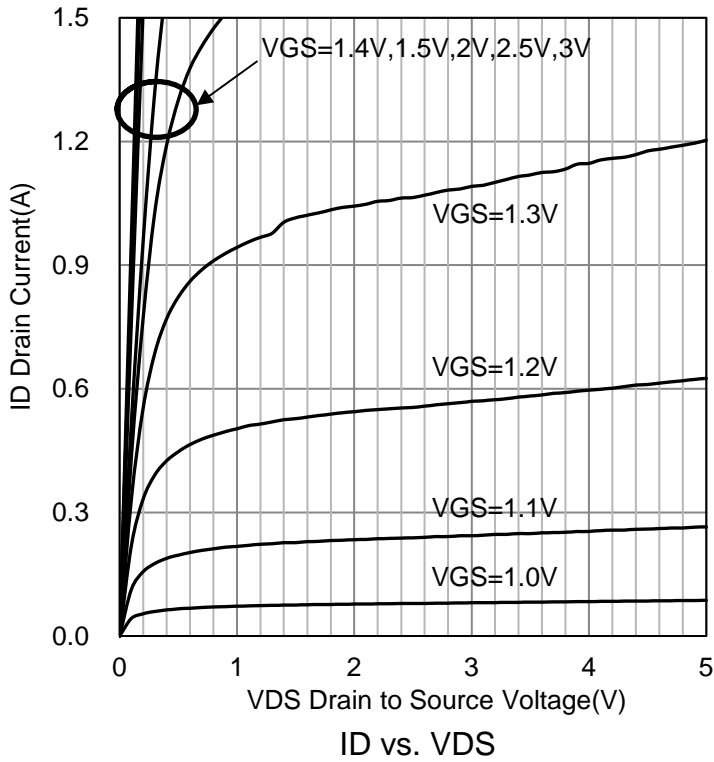
1.1-in2 2oz Cu PCB board.



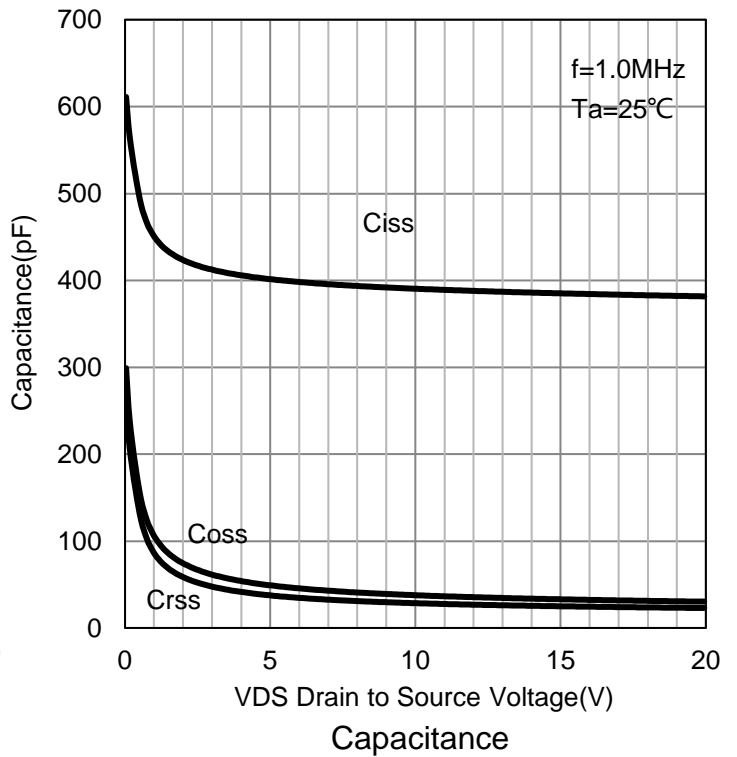
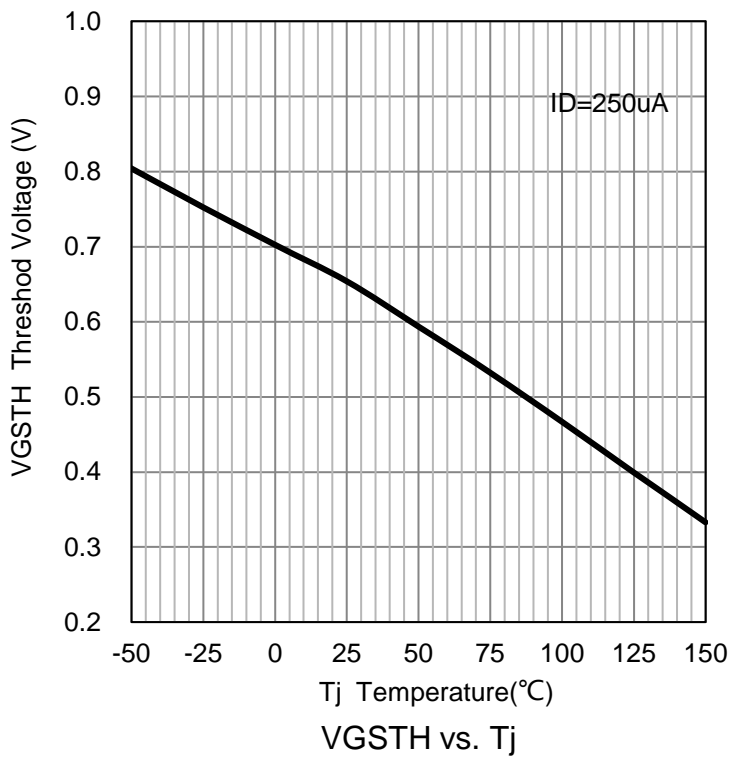
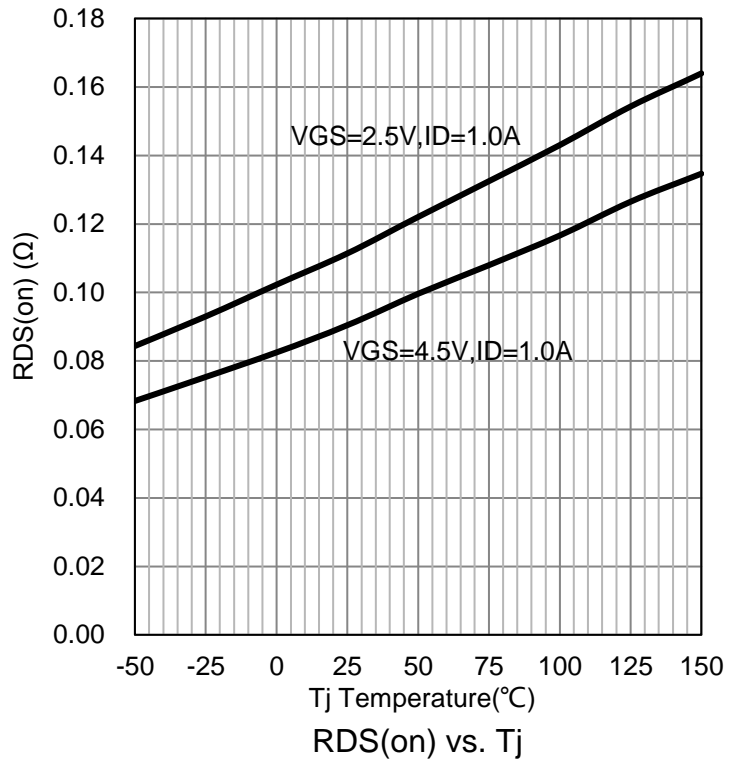
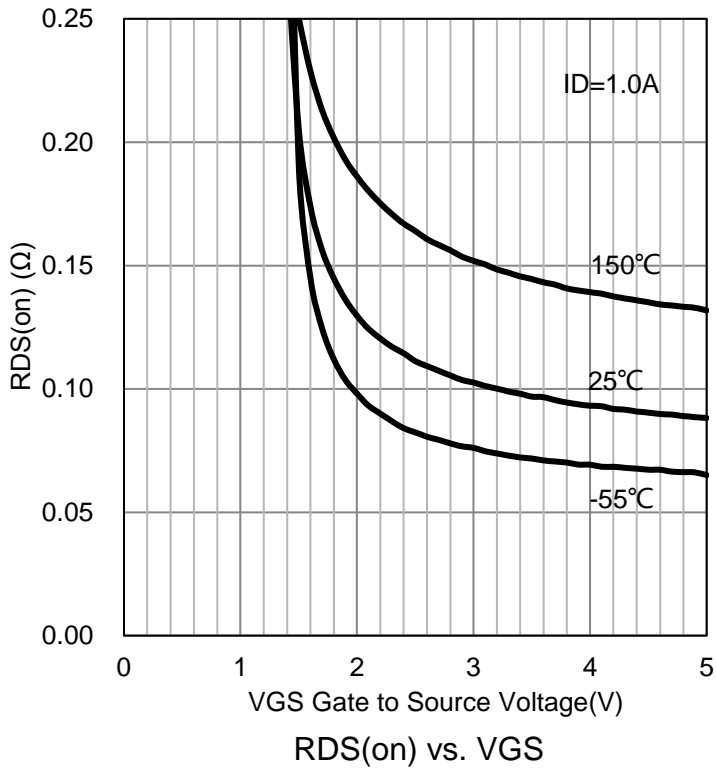
**6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)**

Characteristic	Symbol	Min.	Typ.	Max.	Unit
<b>Static</b>					
Drain-Source Voltage (ID = -250μA, VGS = 0V)	V(BR)DSS	-20	-	-	V
Zero Gate Voltage Drain Current (VDS = -16V, VGS = 0V)	IDSS	-	-	-1	μA
Gate-body Leakage Current (VDS = 0V, VGS = ±8V)	IGSS	-	-	±100	nA
Gate Threshold Voltage (VDS = VGS, ID = -250μA)	VGS(th)	-0.4	-0.6	-1.0	V
Static Drain-Source On resistance (VGS = -2.5V, ID = -1A ) (VGS = -4.5V, ID = -1A )	RDS(ON)		110 90	150 120	mΩ
Diode Forward Voltage (IS = -1A, VGS = 0V)	VSD	-	-0.79	-1.5	V
<b>Dynamic</b>					
Input Capacitance	(VDS = -10V, VGS = 0V, f=1MHz)	Ciss	-	400	-
Output Capacitance		Coss	-	41	-
Reverse Transfer Capacitance		Crss	-	30	-
Total Gate Charge	(VGS = -4.5V, ID = -1.2A, VDS = -10V)	Qg	-	4	-
Gate Source Charge		Qgs	-	0.6	-
Gate Drain Charge		Qgd	-	0.85	-
Turn-On Delay Time	(VGS = -4.5V, VDS = -10V, ID = -1.2A, RGEN = 6Ω)	td(on)	-	5	-
Turn-On Rise Time		tr	-	11	-
Turn-Off Delay Time		td(off)	-	30	-
Turn-Off Fall Time		tf	-	18	-
Gate Resistance (VDS = 0V, VGS = 0V, f=1MHz )	Rg	-	12	-	Ω
Maximum Body-diode Continuous Current	IS	-	-	-1	A
Body-diode Reverse Recovery Time (Is = -1.0A, di/dt=100A/μs)	ttr	-	30	-	ns
Body-diode Reverse Recovery Charge (Is = -1.0A, di/dt=100A/μs)	Qrr	-	12	-	nC

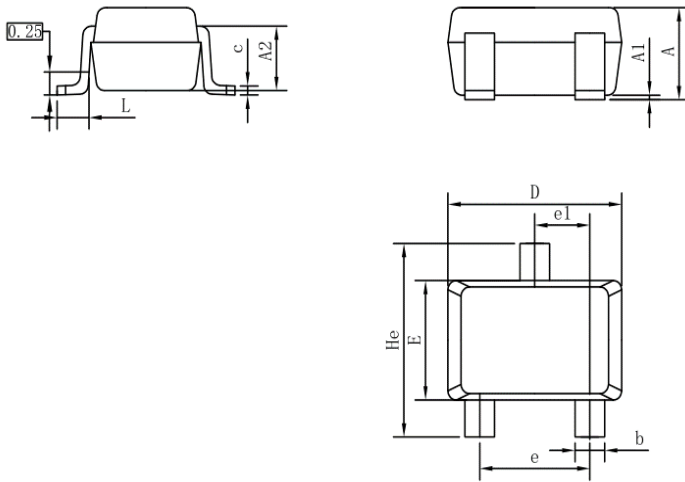
### 7. ELECTRICAL CHARACTERISTICS CURVES



**7. ELECTRICAL CHARACTERISTICS CURVES(Con.)**

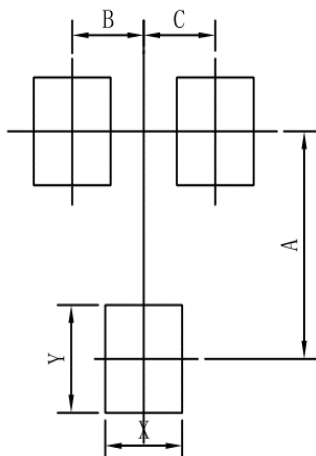


### 8.OUTLINE AND DIMENSIONS



SC70			
DIM	MIN	NOR	MAX
A	0.80	0.95	1.00
A1	0.00	0.05	0.10
A2	0.7 REF		
b	0.30	0.35	0.40
c	0.10	0.15	0.25
D	1.80	2.05	2.20
E	1.15	1.30	1.35
e	1.20	1.30	1.40
e1	0.65 BSC		
L	0.20	0.35	0.56
He	2.00	2.10	2.40
ALL Dimension in mm			

### 9.SOLDERING FOOTPRINT



SC70	
DIM	MIN
A	1.90
B	0.65
C	0.65
X	0.70
Y	0.90

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