

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 complies 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

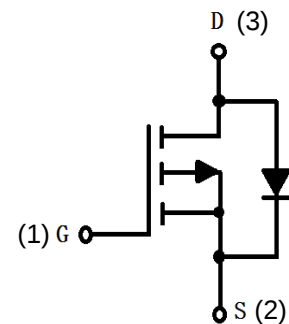
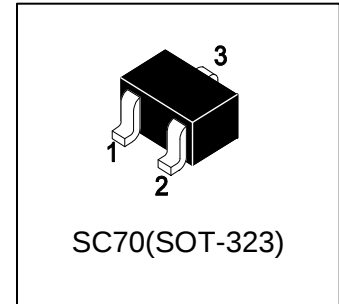
4. MAXIMUM RATINGS($T_a = 25^\circ C$)

Parameter		Symbol	Limits	Unit
Drain-Source voltage		V_{DS}	-20	Vdc
Gate-Source Voltage		V_{GS}	± 8	Vdc
Continuous Drain Current	Steady-State	I_D	-1.4	A
	@ $t \leq 5s$		-1.5	
Pulse Drain Current @ $T_p = 10\mu s$		I_{DM}	-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 0.19	W
Thermal Resistance, Junction-to-Ambient(Note 1)	$R_{\theta JA}$	430	$^\circ C/W$
Junction to Lead	$R_{\theta JL}$	100	$^\circ C/W$
Junction and Storage temperature	T_J, T_{stg}	$-55 \sim +150$	$^\circ C$

1. FR-4 @ Minimum Pad.



6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

OFF CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
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

ON CHARACTERISTICS

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

Dynamic

Transconductance (VDS = -10V, ID = -1A)	gFS	4	6	-	S
Input Capacitance	(VDS = -10V, VGS = 0V, f=1MHz)	Ciss	-	480	pF
Output Capacitance		Coss	-	58	
Reverse Transfer Capacitance		Crss	-	51	
Gate Resistance (VDS = 0V, VGS = 0V, f=1MHz)	Rg	-	12	-	Ω

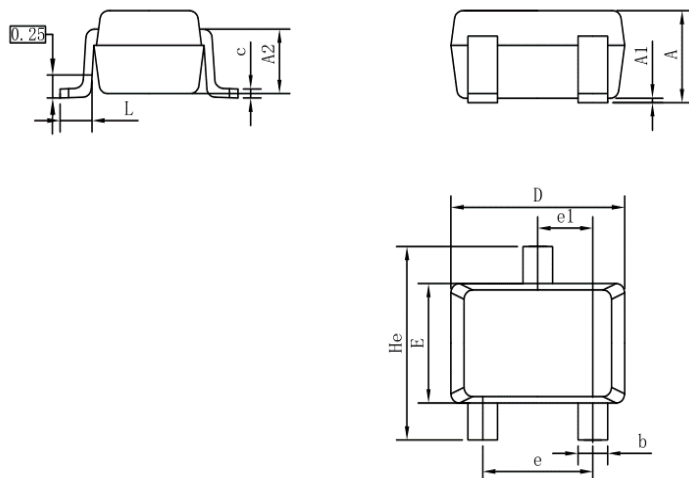
Switching

Total Gate Charge	(VGS = -4.5V, ID = -1.2A, VDS = -10V)	Qg	-	6.5	-	nC
Gate Source Charge		Qgs	-	0.3	-	
Gate Drain Charge		Qgd	-	0.7	-	
Turn-On Delay Time	(VGS = -4.5V, VDS = -10V, ID = -1.2A, RGEN = 6Ω)	tD(on)	-	8	-	ns
Turn-On Rise Time		tr	-	6	-	
Turn-Off Delay Time		tD(off)	-	42	-	
Turn-Off Fall Time		tf	-	7	-	

Source Drain Diode

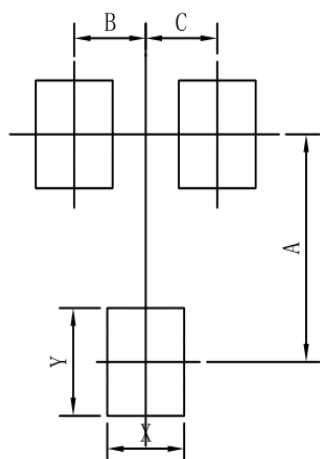
Diode Forward Voltage (IS = -1A, VGS = 0V)	VSD	-	-0.79	-1.5	V
Maximum Body-diode Continuous Current	IS	-	-	-1	A
Body-diode Reverse Recovery Time (IS = -1.0A, di/dt=100A/μs)	trr	-	30	-	ns
Body-diode Reverse Recovery Charge (IS = -1.0A, di/dt=100A/μs)	Qrr	-	12	-	nC

7.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			

8.SOLDERING FOOTPRINT



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