

LP2371LT1G

S-LP2371LT1G

P-Channel 100-V (D-S) MOSFET

1. FEATURES

- $R_{DS(ON)} \leq 1.4\Omega$, $V_{GS}@-10V$
- $R_{DS(ON)} \leq 1.5\Omega$, $V_{GS}@-4.5V$
- Fast switching speed
- Low $R_{DS(on)}$ trench technology
- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- S- prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.

2. APPLICATIONS

- PoE Power Sourcing Equipment
- PoE Powered Devices
- Telecom DC/DC converters
- White LED boost converters

3. DEVICE MARKING AND ORDERING INFORMATION

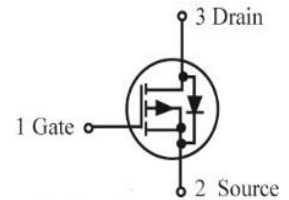
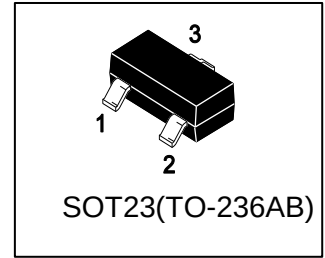
Device	Marking	Shipping
LP2371LT1G	E9	3000/Tape&Reel
LP2371LT3G	E9	10000/Tape&Reel

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

Parameter		Symbol	Limits	Unit
Drain-Source Voltage		VDSS	-100	V
Gate-to-Source Voltage – Continuous		VGS	± 20	V
Continuous Drain Current(Note 1)	$T_a = 25^\circ\text{C}$	ID	-1	A
	$T_a = 70^\circ\text{C}$		-0.8	
Pulsed Drain Current(Note 2)		IDM	-2.6	
Power Dissipation(Note 1)	$T_a = 25^\circ\text{C}$	PD	1.3	W
	$T_a = 70^\circ\text{C}$		0.8	
Junction Temperature		Tj	150	$^\circ\text{C}$
Storage Temperature Range		Tstg	-55~+150	$^\circ\text{C}$
Thermal Resistance-Junction to Ambient(Note 1)		R θ JA	t $\leq$ 10s	100
			Steady State	166

1.Surface mounted on "1.5 x 1.5" FR4 board using 1 sq in pad, 2 oz Cu.

2.Pulse width limited by maximum junction temperature.

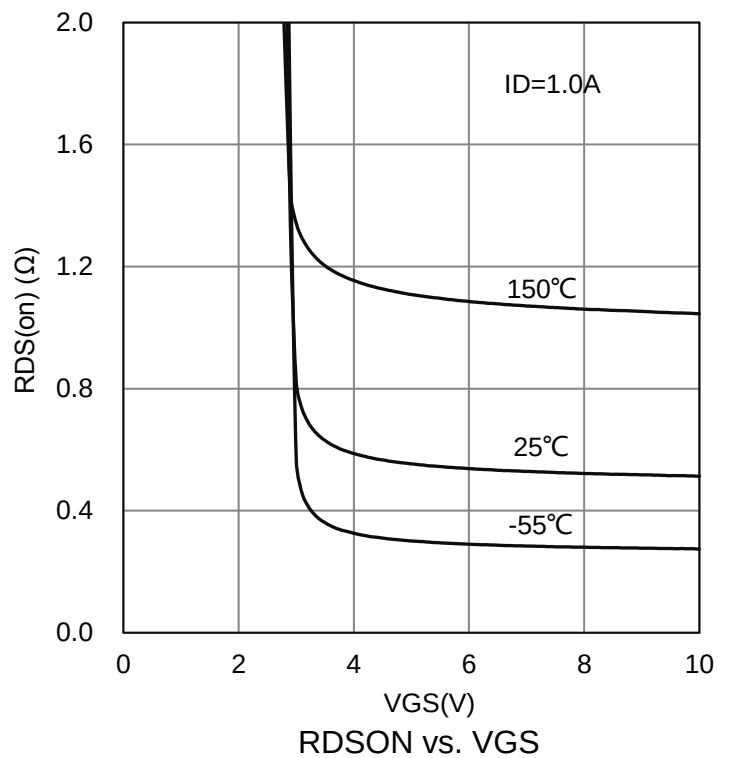
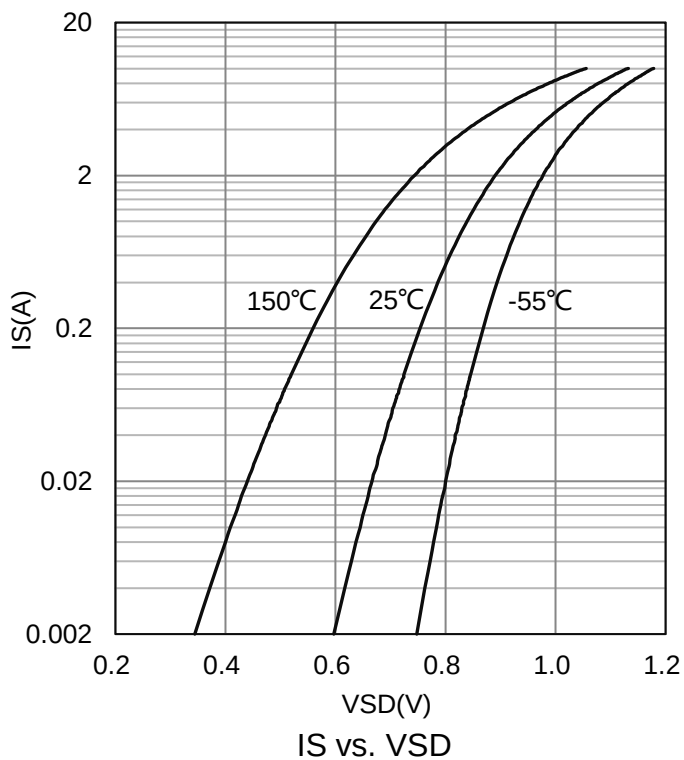
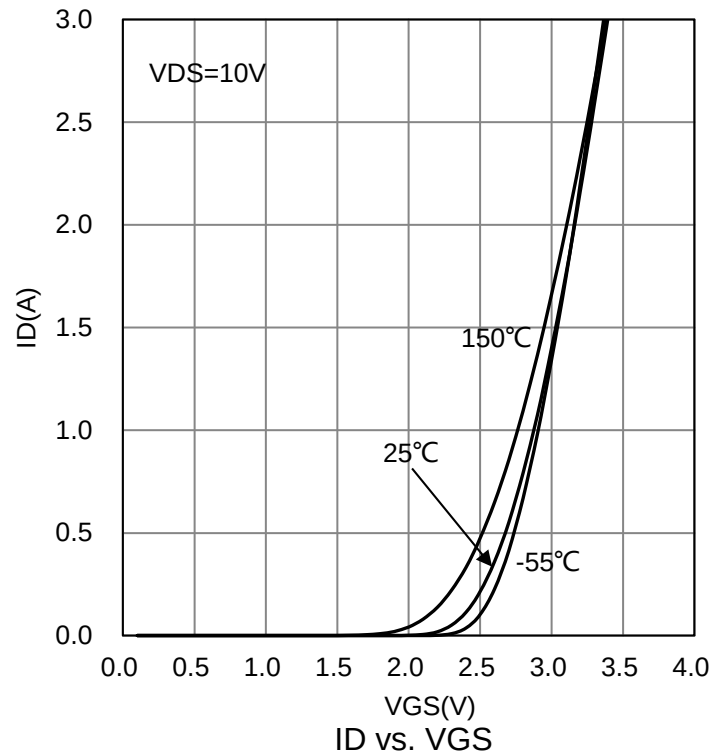
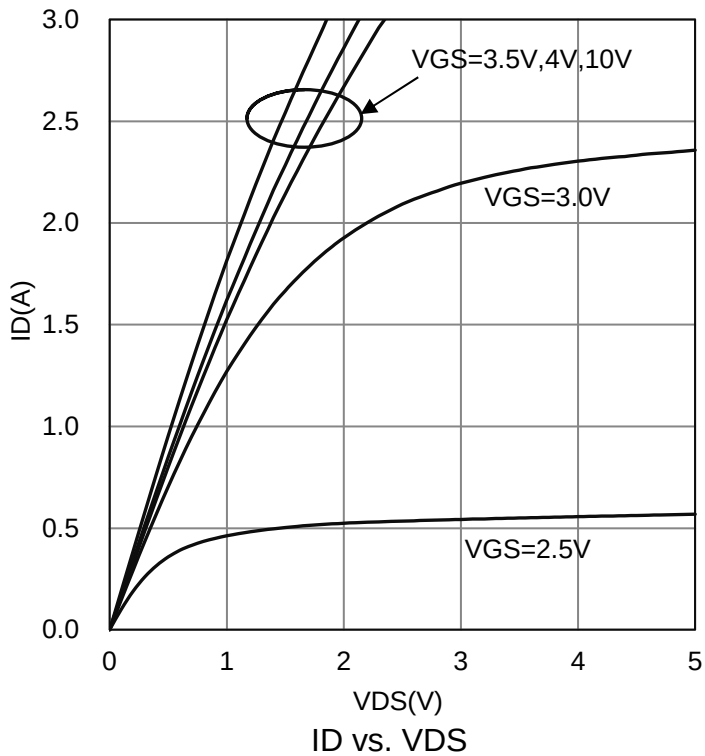


5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

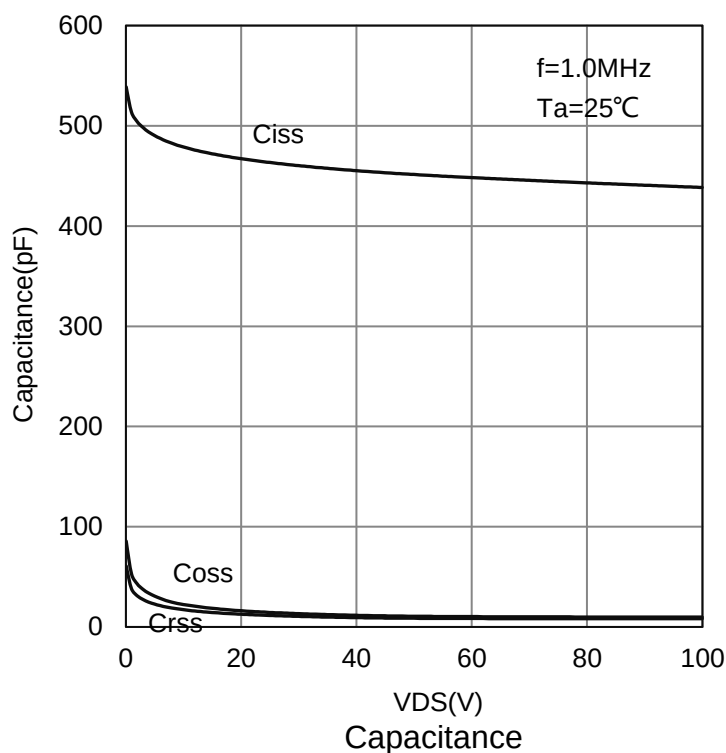
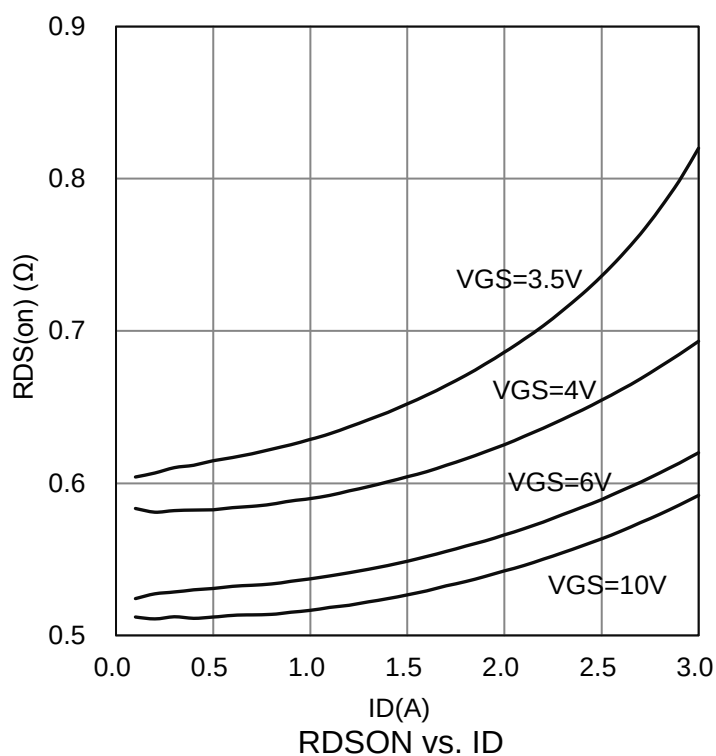
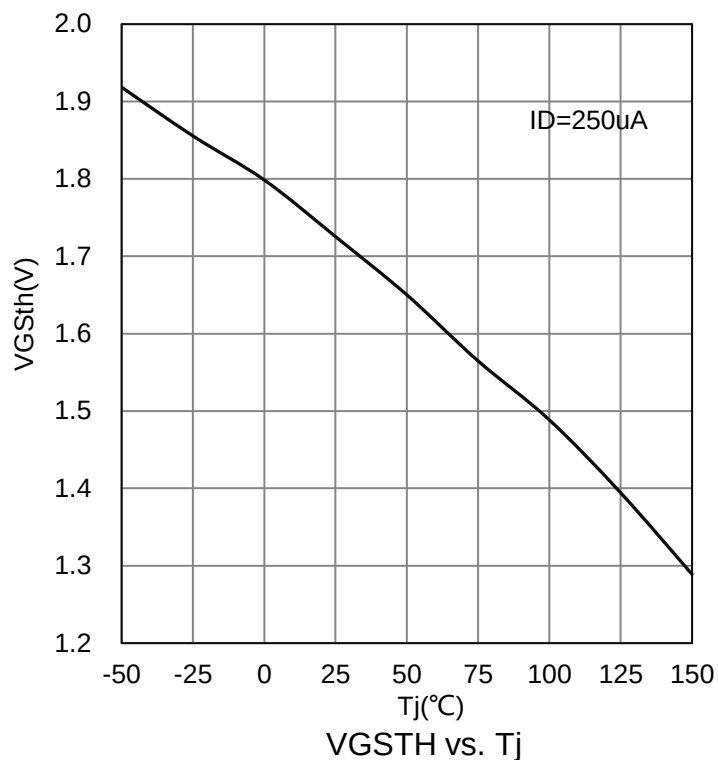
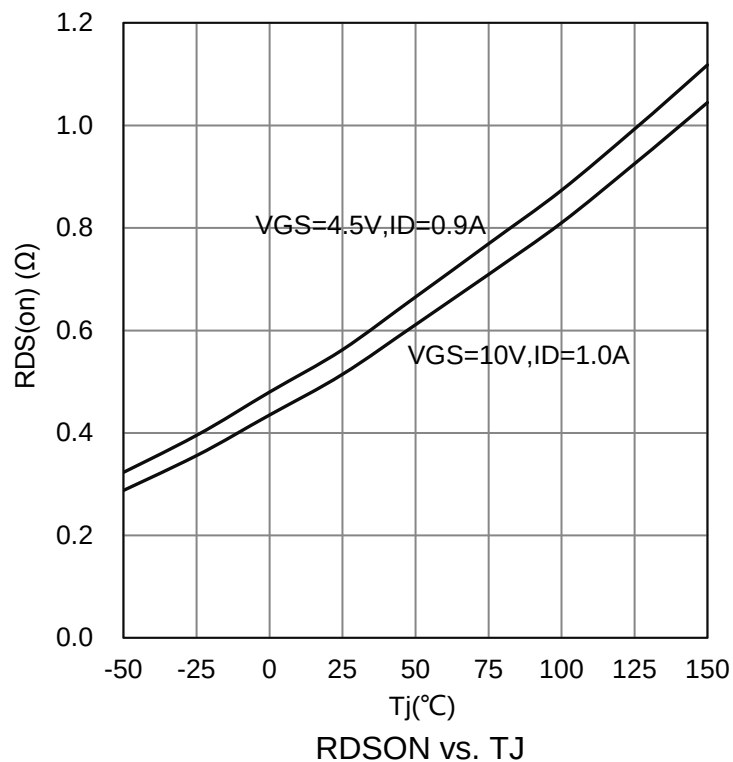
Characteristic	Symbol	Min.	Typ.	Max.	Unit
STATIC					
Drain–Source Breakdown Voltage (VGS = 0, ID = -250μA)	VBRDSS	-100	-	-	V
Gate Threshold Voltage (VDS = VGS, ID = -250μA)	VGS(th)	-1	-	-3.5	V
Gate Leakage Current (VDS = 0V, VGS = ±20V)	IGSS	-	-	±100	nA
Zero Gate Voltage Drain Current (VGS = 0V, VDS = -80 V) (VGS = 0V, VDS = -80 V, TJ = 55°C)	IDSS	-	-	-1 -25	μA
Static Drain–Source On–State Resistance(Note 3) (VGS = -10 V, ID = -1 A) (VGS = -4.5 V, ID = -0.9 A)	RDS(on)	-	-	1.4 1.5	Ω
Diode Forward Voltage (VGS = 0 V, IS = -0.8 A)	VSD	-	-0.81	-1.3	V
DYNAMIC					
Total Gate Charge (VGS = -4.5 V, ID = -1A, VDS = -50 V)	Qg	-	4	-	nC
Gate–Source Charge (VGS = -4.5 V, ID = -1A, VDS = -50 V)	Qgs	-	1.6	-	
Gate–Drain Charge (VGS = -4.5 V, ID = -1A, VDS = -50 V)	Qgd	-	1.2	-	
Input Capacitance (VGS = 0 V, f = 1.0MHz, VDS = -15 V)	Ciss	-	472	-	pF
Output Capacitance (VGS = 0 V, f = 1.0MHz, VDS = -15 V)	Coss	-	18.6	-	
Reverse Transfer Capacitance (VGS = 0 V, f = 1.0MHz, VDS = -15 V)	Crss	-	14.4	-	
Turn-On Delay Time	(VDD = -50V, RL = 50Ω ID = -1A, VGEN = -10V RG = 6.2Ω)	td(on)	-	3.6	ns
Rise Time		tr	-	1.1	
Turn-Off Delay Time		td(off)	-	19.9	
Fall Time		tf	-	1.9	

3. Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%.

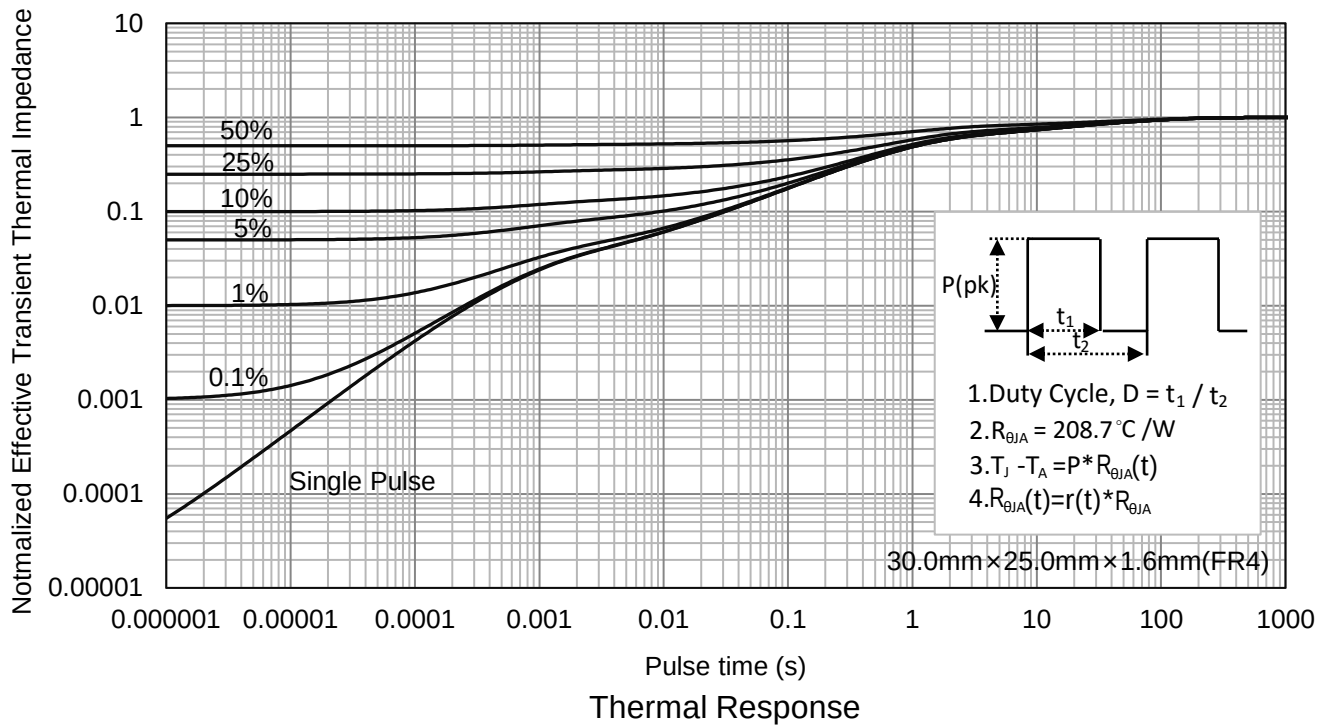
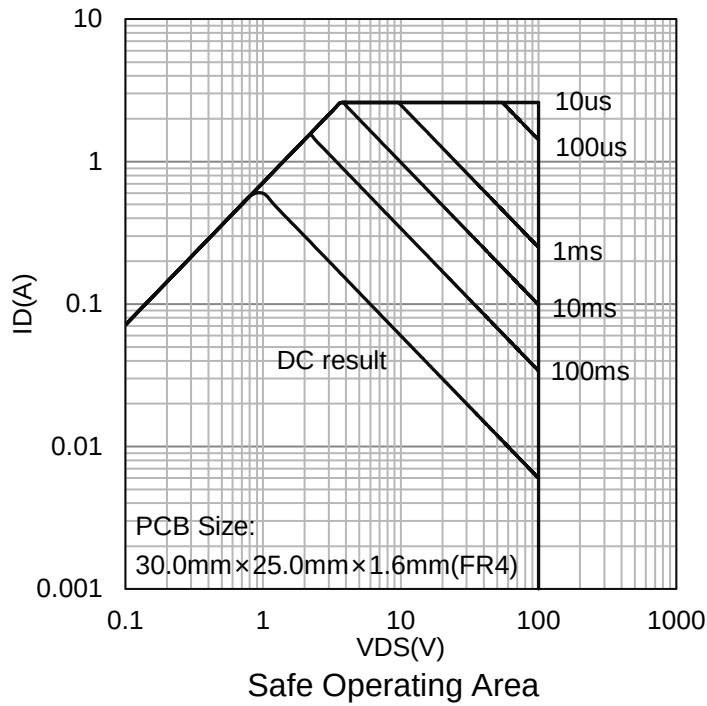
6. ELECTRICAL CHARACTERISTICS CURVES



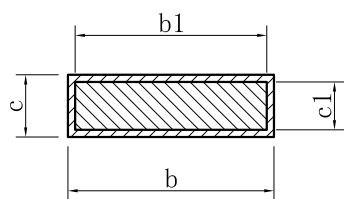
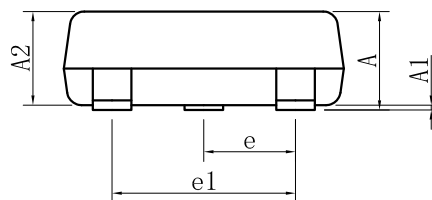
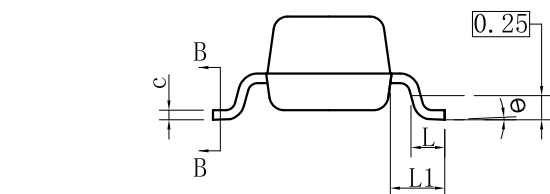
6.ELECTRICAL CHARACTERISTICS CURVES(Con.)



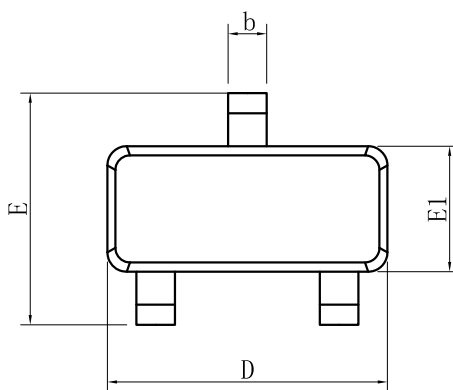
6. ELECTRICAL CHARACTERISTICS CURVES(Con.)



7.OUTLINE AND DIMENSIONS



SECTION B-B

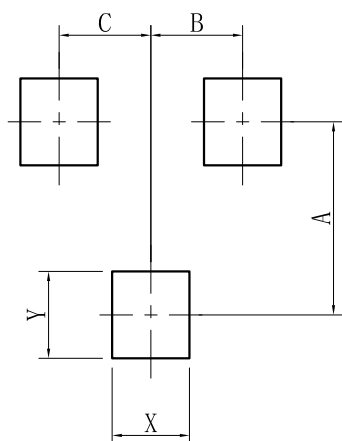


SOT23			
DIM	MIN	NOR	MAX
A	0.89	—	1.12
A1	0.01	—	0.10
A2	0.88	0.95	1.02
b	0.30	—	0.50
b1	0.30	0.40	0.45
c	0.08	—	0.20
c1	0.08	0.10	0.16
D	2.80	2.90	3.04
E	2.10	—	2.64
E1	1.20	1.30	1.40
e	0.95BSC		
e1	1.90BSC		
L	0.40	0.46	0.60
L1	0.54REF		
θ	0°	—	8°
All Dimensions in mm			

GENERAL NOTES

- 1.Top package surface finish $Ra0.4 \pm 0.2\mu m$
- 2.Bottom package surface finish $Ra0.7 \pm 0.2\mu m$
- 3.Side package surface finish $Ra0.4 \pm 0.2\mu m$

8.SOLDERING FOOTPRINT



SOT23	
DIM	(mm)
X	0.80
Y	0.90
A	2.00
B	0.95
C	0.95

DISCLAIMER

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.
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