

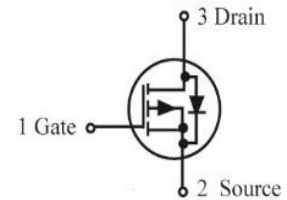
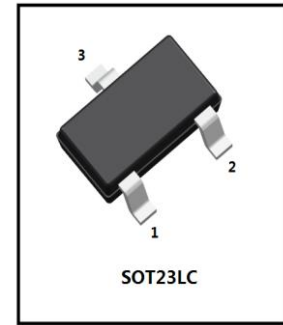
LPB3407LT1G

S-LPB3407LT1G

30V P-Channel Enhancement-Mode MOSFET

1. FEATURES

- $V_{DS} = -30V$
- $R_{DS(ON)} \leq 60m\Omega @ V_{GS} = -10V, I_D = -4.1A$
- $R_{DS(ON)} \leq 80m\Omega @ V_{GS} = -4.5V, I_D = -3A$
- 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

- Advanced trench technology
- This device is suitable for use as a load switch or in PWM applications.

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LPB3407LT1G	A07	3000/Tape&Reel
LPB3407LT3G	A07	10000/Tape&Reel

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

Parameter	Symbol	Limits	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	ID	$T_A = 25^\circ C$	-5
		$T_A = 70^\circ C$	-3.8
Pulsed Drain Current(Note 3)	IDM	-30	A
Power Dissipation(Note 2)	PD	$T_A = 25^\circ C$	1.4
		$T_A = 70^\circ C$	0.9
Junction and Storage Temperature Range	T_J, T_{STG}	-55~+150	$^\circ C$

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Typ.	Max	Unit
Maximum Junction-to-Ambient(Note 1)	$R_{\theta JA}$	$t \leq 10s$	70	$^\circ C/W$
Maximum Junction-to-Ambient(Note 1)		Steady-State	100	
Maximum Junction-to-Lead	$R_{\theta JL}$	63	80	

1. The value of $R_{\theta JA}$ is measured with the device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25^\circ C$. The value in any given application depends on the user's specific board design. The current rating is based on the $t \leq 10s$ thermal resistance rating.

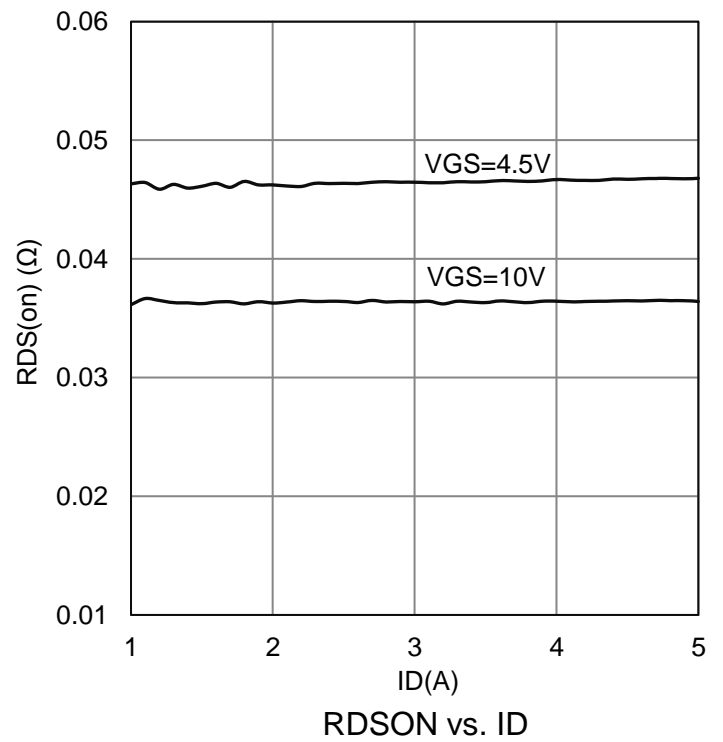
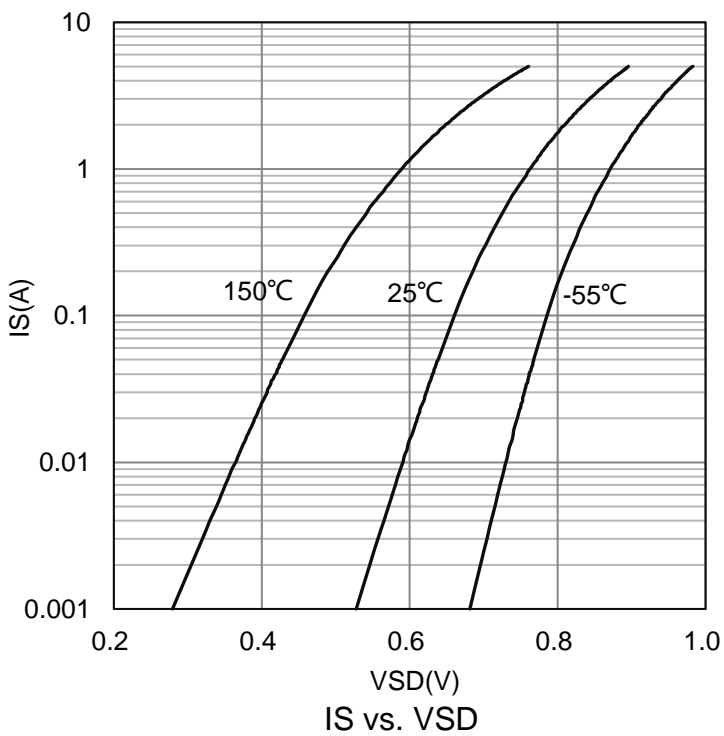
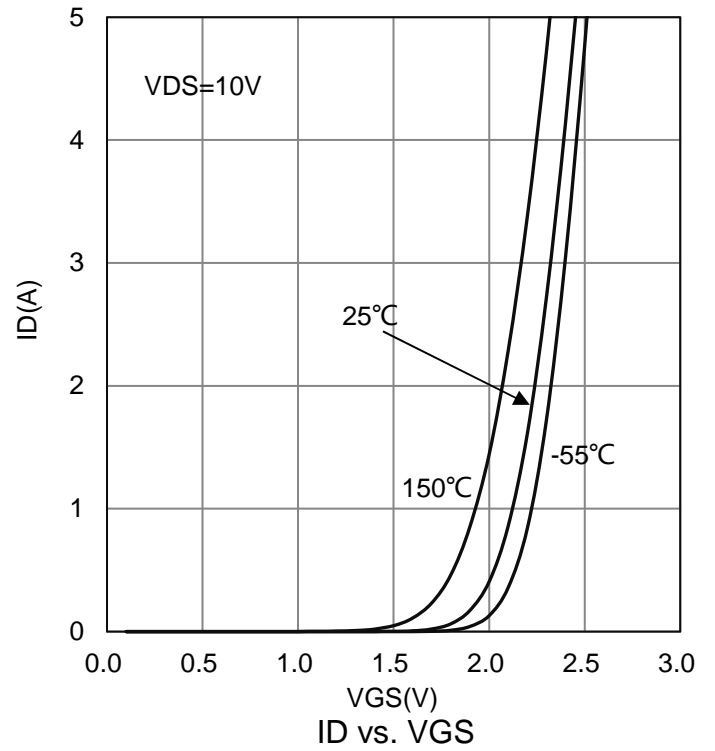
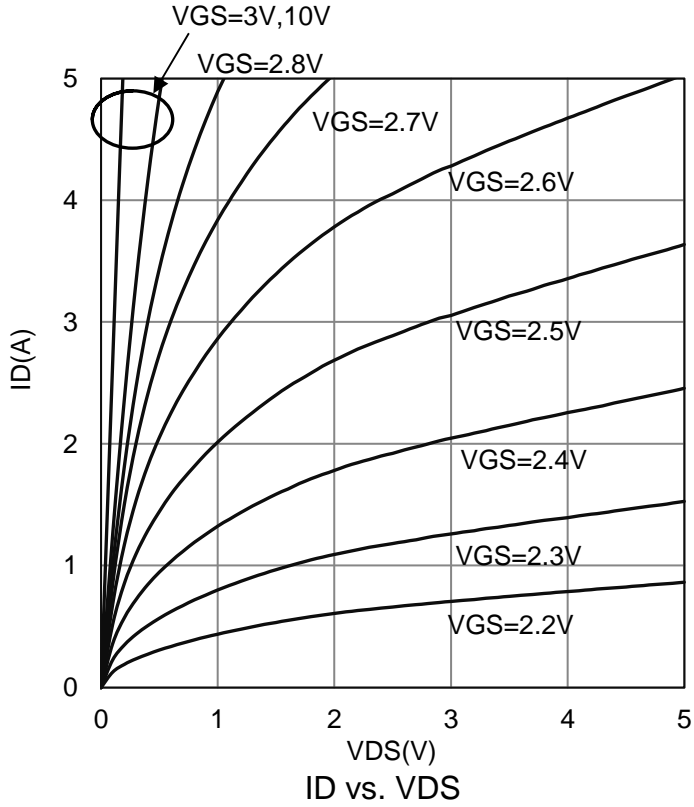
2. Repetitive rating, pulse width limited by junction temperature.

3. The $R_{\theta JA}$ is the sum of the thermal impedance from junction to lead $R_{\theta JL}$ and lead to ambient.

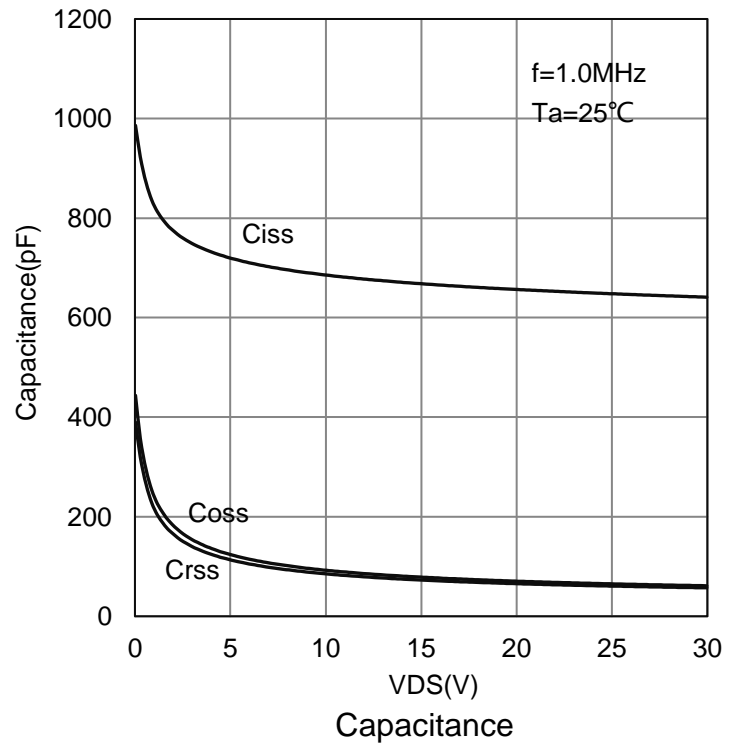
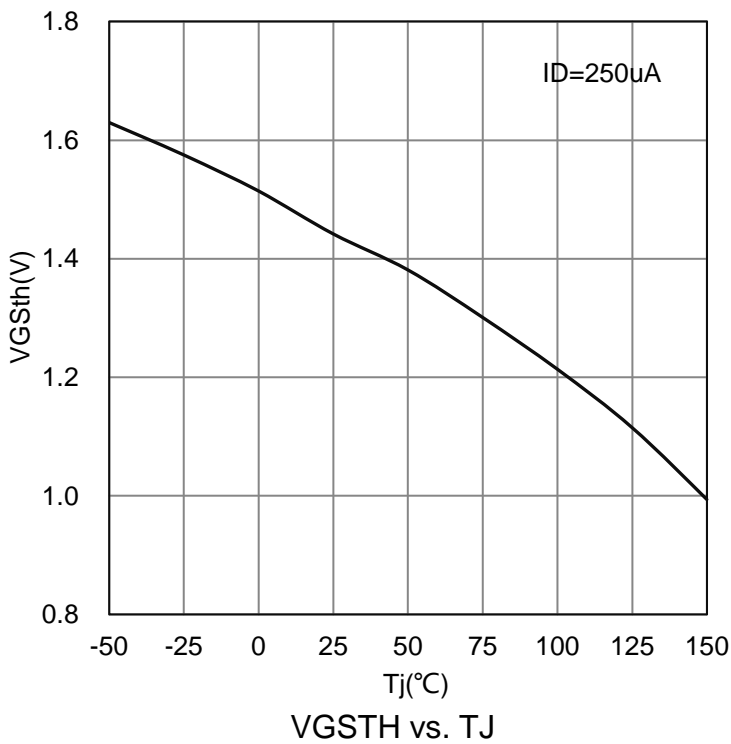
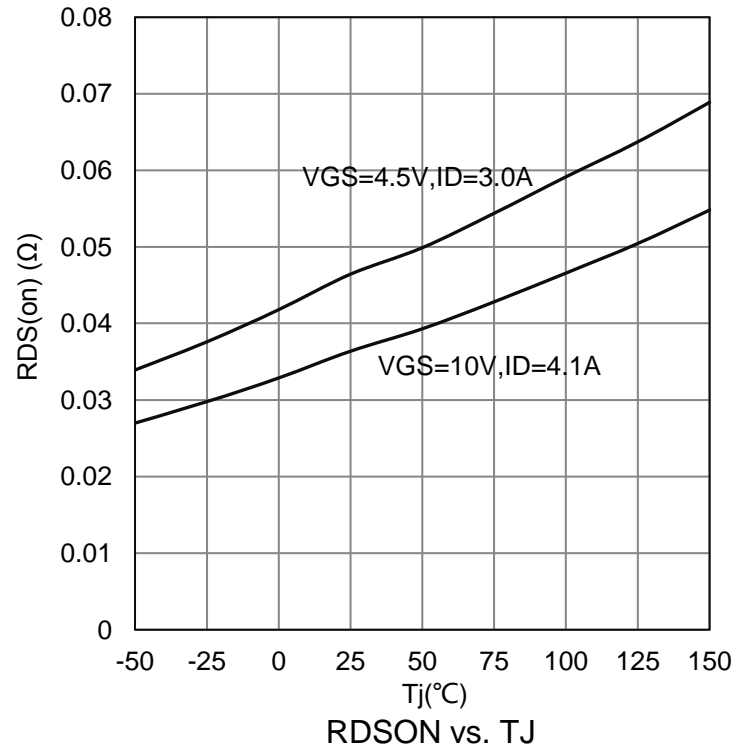
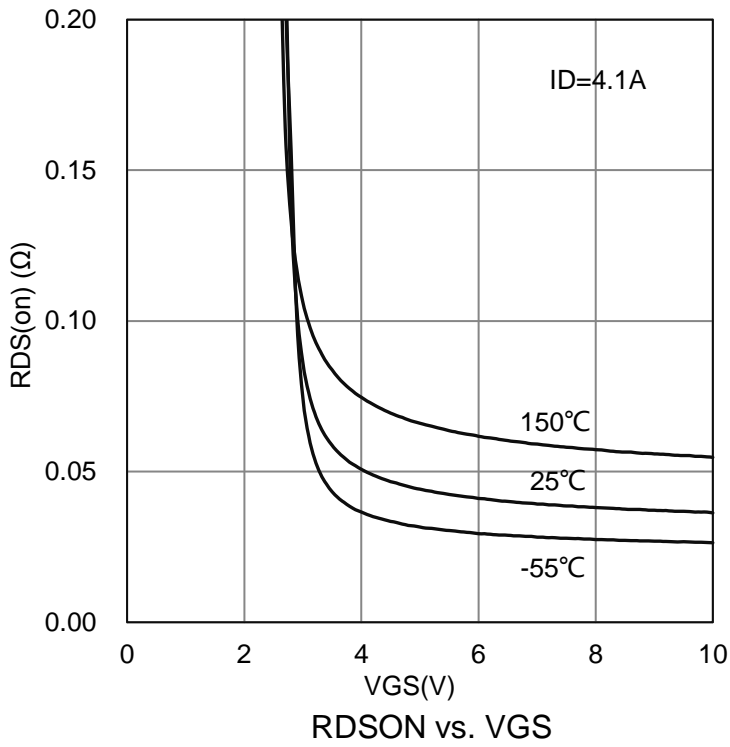
6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic	Symbol	Min.	Typ.	Max.	Unit	
Static						
Drain–Source Breakdown Voltage (VGS = 0, ID = -250μA)	VBRDSS	-30	-	-	V	
Zero Gate Voltage Drain Current (VGS = 0, VDS = -24 V) (VGS = 0, VDS = -24 V, TJ = 55°C)	IDSS	-	-	-1 -5	μA	
Gate–Body Leakage Current (VDS = 0V, VGS = ±20V)	IGSS	-	-	±100	nA	
Gate Threshold Voltage (VDS = VGS, ID = -250μA)	VGS(th)	-1	-2	-3	V	
Static Drain–Source On–State Resistance (VGS = -10V, ID = -4.1A) (VGS = -4.5V, ID = -3A)	RDS(on)	-	48 68	60 80	mΩ	
Diode Forward Voltage (IS = -1A, VGS = 0V)	VSD	-	-0.7	-1	V	
Dynamic						
Input Capacitance	(VGS = 0V, VDS = -15V, f=1MHz)	-	Ciss	670	-	pF
Output Capacitance			Coss	78	-	
Reverse Transfer Capacitance			Crss	74	-	
Total Gate Charge(Vgs=10V)	(VDS = -15V, ID = -4A)	-	Qg	14	-	nC
Total Gate Charge(Vgs=4.5V)			Qg	7.2	-	
Gate Source Charge			Qgs	1.2	-	
Gate Drain Charge			Qgd	3.6	-	
Turn-On DelayTime	(VGS = -10V, VDS = -15V, RL = 3.6Ω, RGEN = 3Ω)	-	td(on)	7.5	-	ns
Turn-On Rise Time			tr	5.5	-	
Turn-Off DelayTime			td(off)	19	-	
Turn-Off Fall Time			tf	7	-	
Body Diode Reverse Recovery Time (IF = -4A, dI/dt=100A/μs)	trr	8.8	11	13	ns	
Body Diode Reverse Recovery Charge (IF = -4A, dI/dt=100A/μs)	Qrr	4	5.3	6.4	nC	
Gate resistance (VGS = 0V, VDS = 0V, f=1MHz)	Rg	-	6	-	Ω	

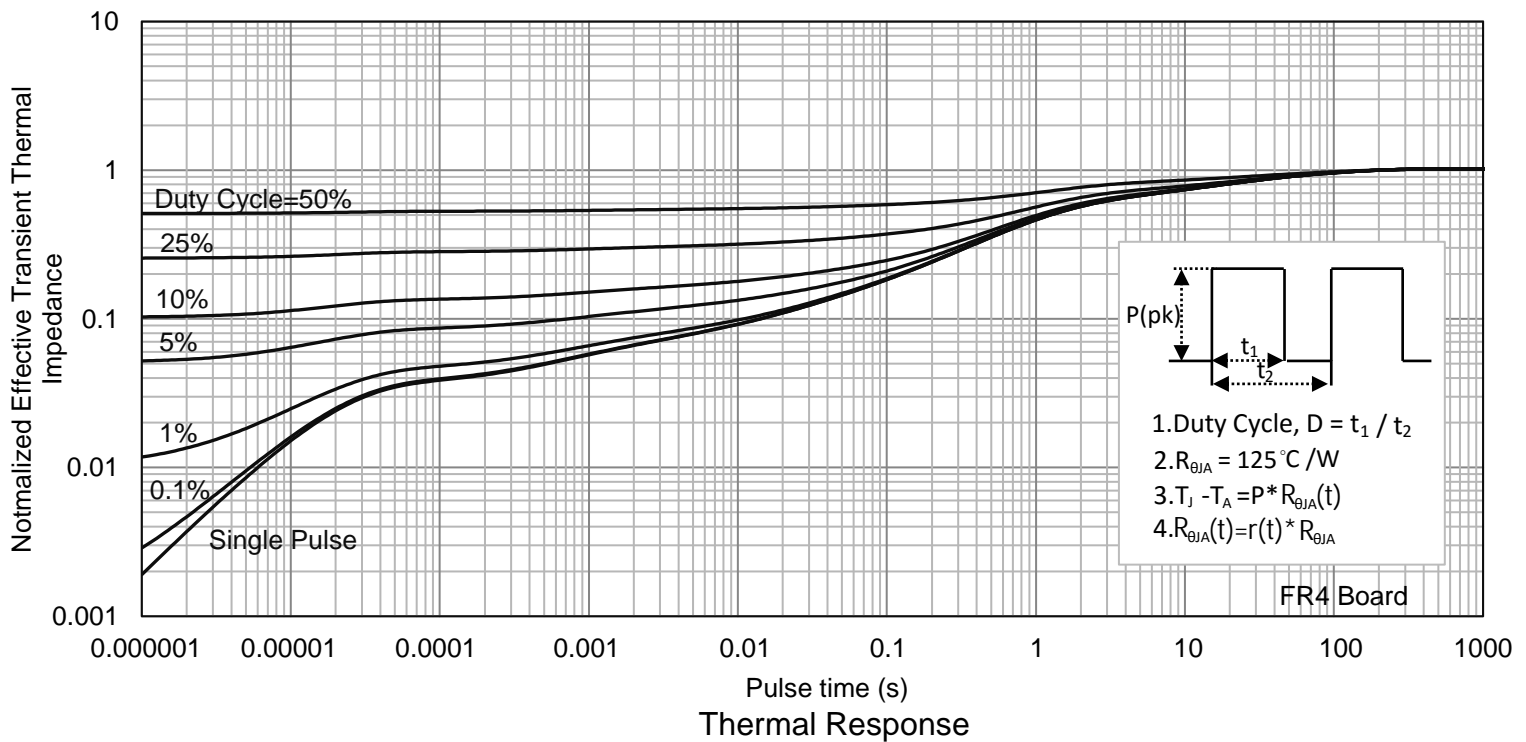
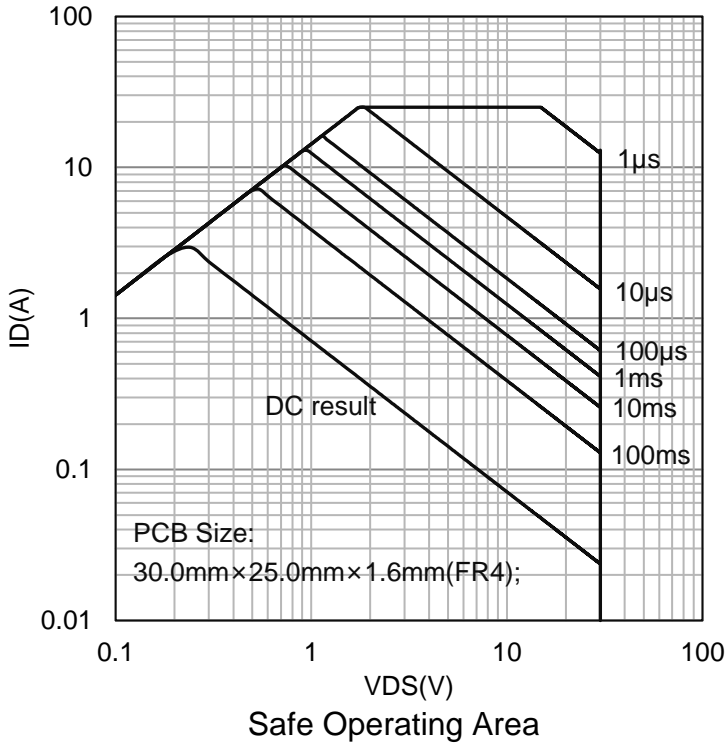
7. ELECTRICAL CHARACTERISTICS CURVES



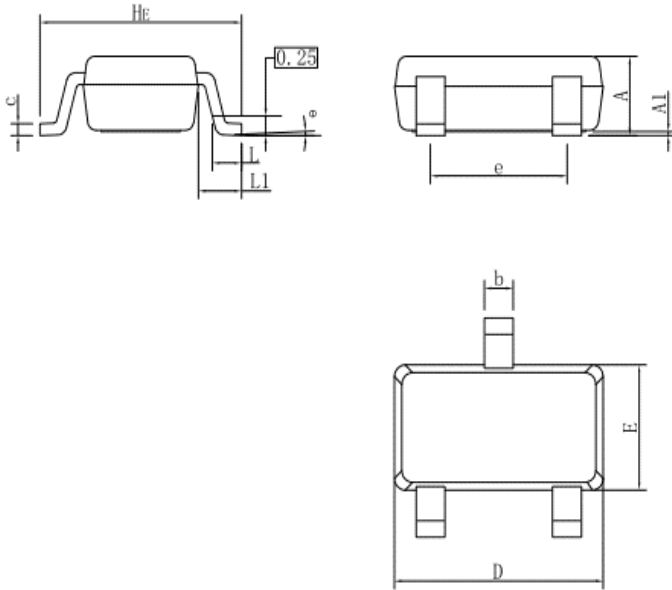
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



8. OUTLINE AND DIMENSIONS

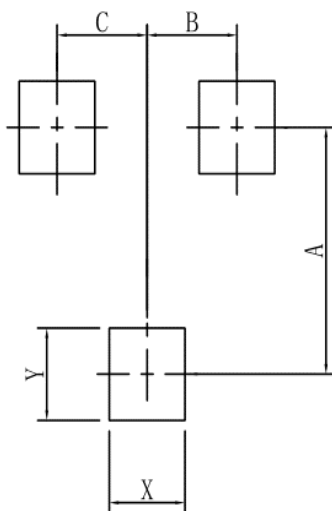


SOT23LC			
DIM	MIN	NOR	MAX
A	0.90	1.00	1.10
A1	0.01	0.06	0.10
b	0.30	0.40	0.50
c	0.10	0.17	0.20
D	2.80	2.90	3.00
E	1.50	1.60	1.70
e	1.80	1.90	2.00
L	0.20	0.40	0.60
L1	0.60REF		
HE	2.60	2.80	3.00
θ	0°	-	10°
All Dimensions in mm			

GENERAL NOTES

1. Top package surface finish Ra0.4±0.2um
2. Bottom package surface finish Ra0.7±0.2um
3. Side package surface finish Ra0.4±0.2um

9. SOLDERING FOOTPRINT



SOT23LC	
DIM	(mm)
X	0.80
Y	0.90
A	2.40
B	0.95
C	0.95

DISCLAIMER

- Before you use our Products, you are requested to carefully read this document and fully understand its contents. LRC shall not be in any way responsible or liable for failure, malfunction or accident arising from the use of any LRC's Products against warning, caution or note contained in this document.
- All information contained in this document is current as of the issuing date and subject to change without any prior notice. Before purchasing or using LRC's Products, please confirm the latest information with a LRC sales representative.