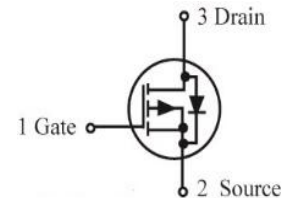
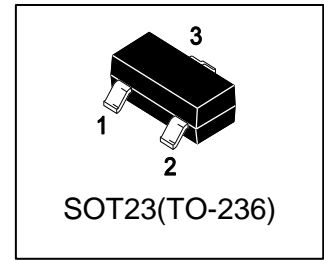


# LP2371LT1G

## 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	$\pm 20$	V
Continuous Drain Current(Note 1)	ID	$T_a=25^\circ\text{C}$	-1
		$T_a=70^\circ\text{C}$	-0.8
Pulsed Drain Current(Note 2)	IDM	-2.6	A
Power Dissipation(Note 1)	PD	$T_a=25^\circ\text{C}$	1.3
		$T_a=70^\circ\text{C}$	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 $\theta$ JA	$t \leq 10\text{s}$	100
		Steady State	166

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

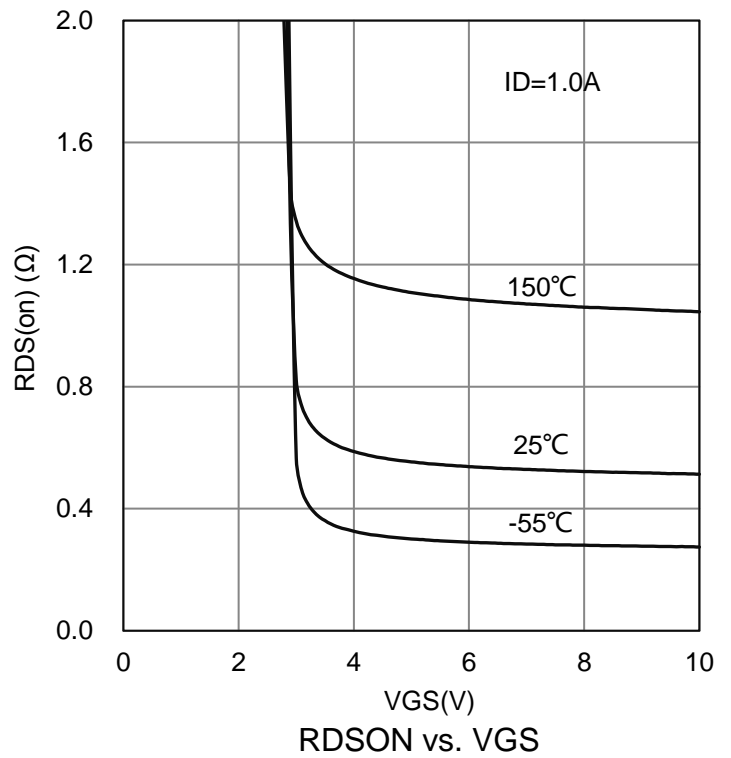
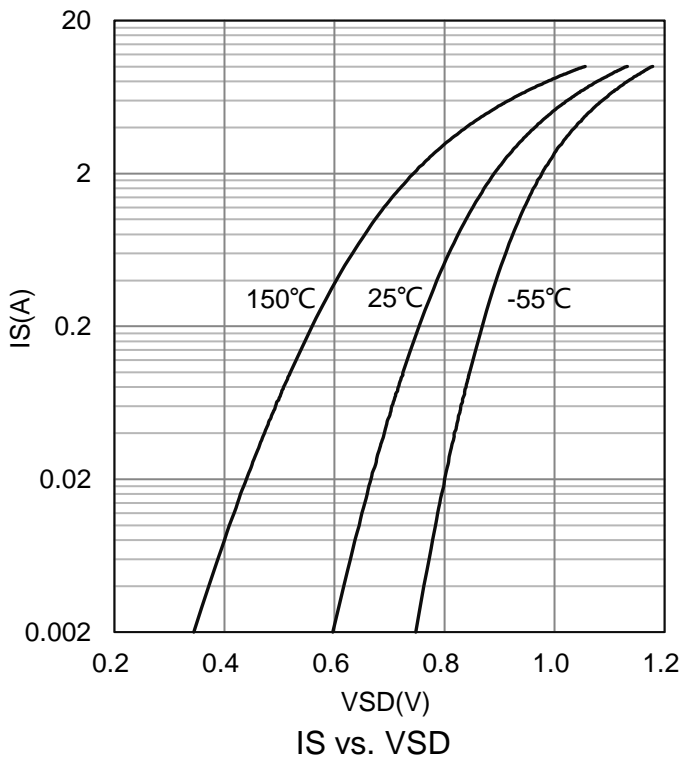
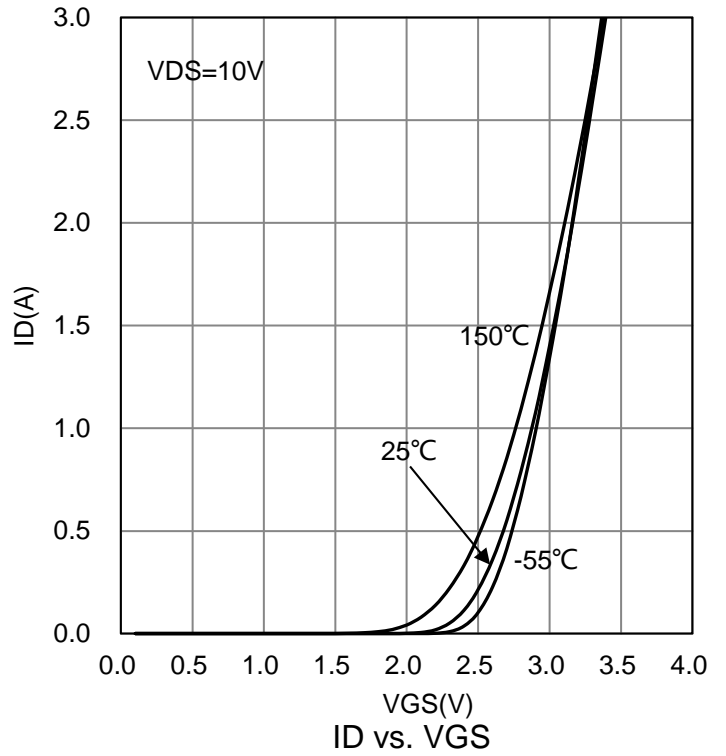
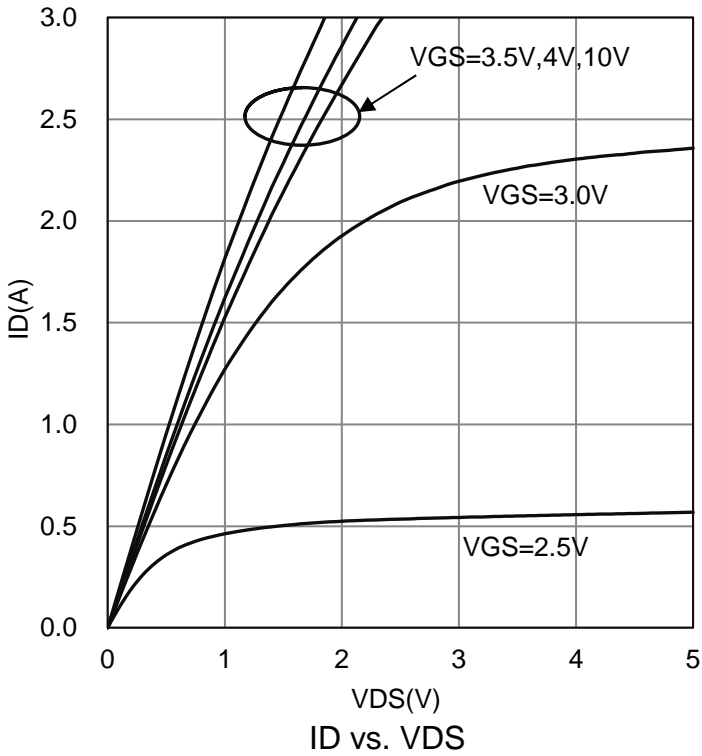
2.Pulse width limited by maximum junction temperature.

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

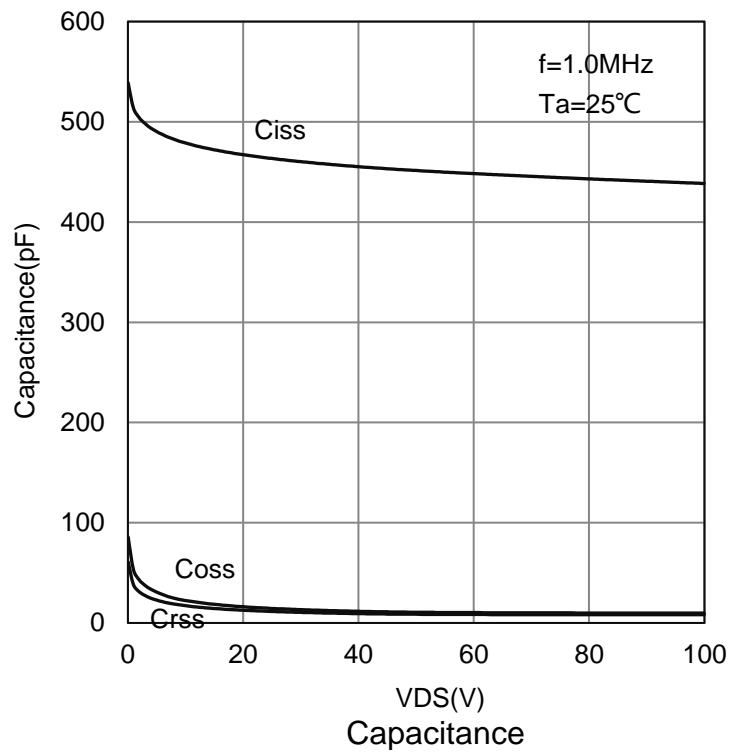
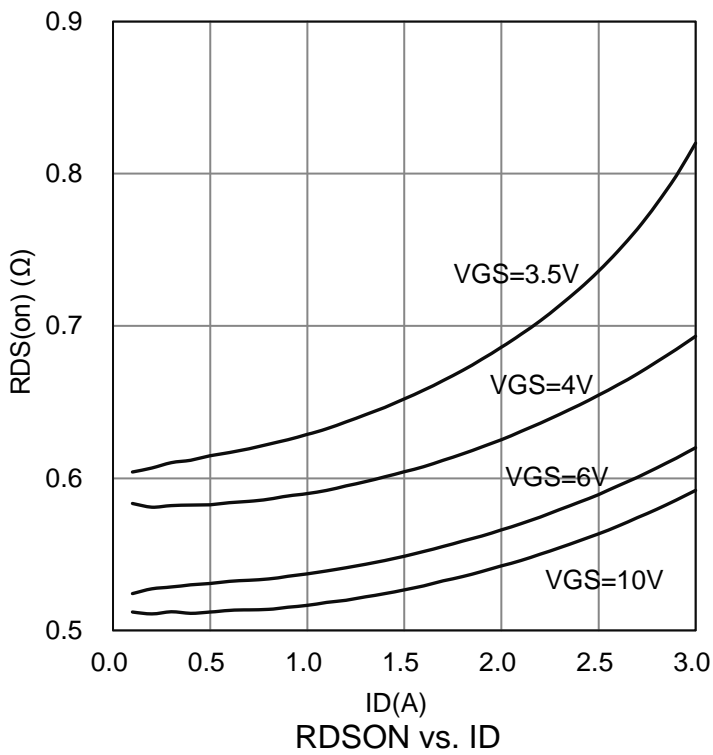
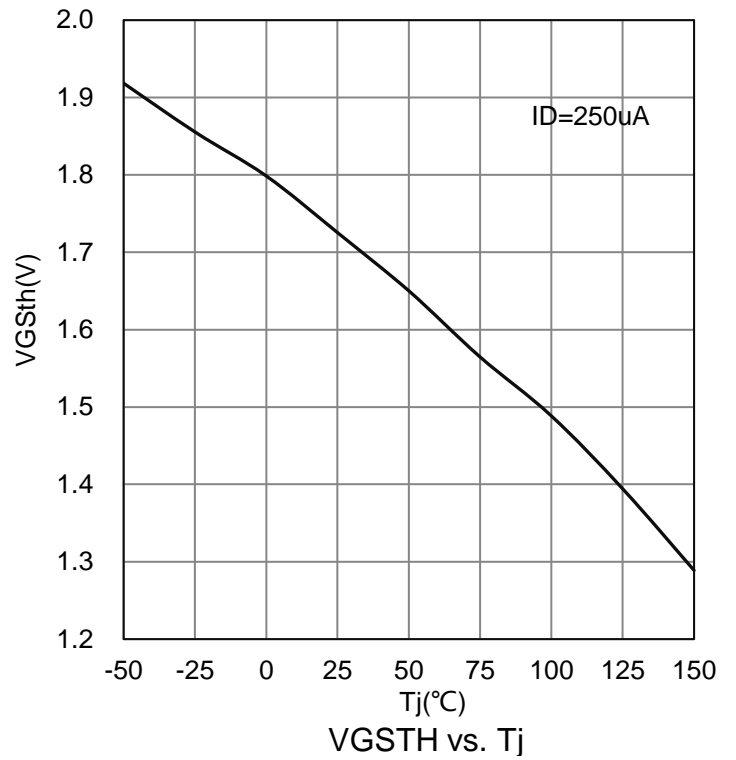
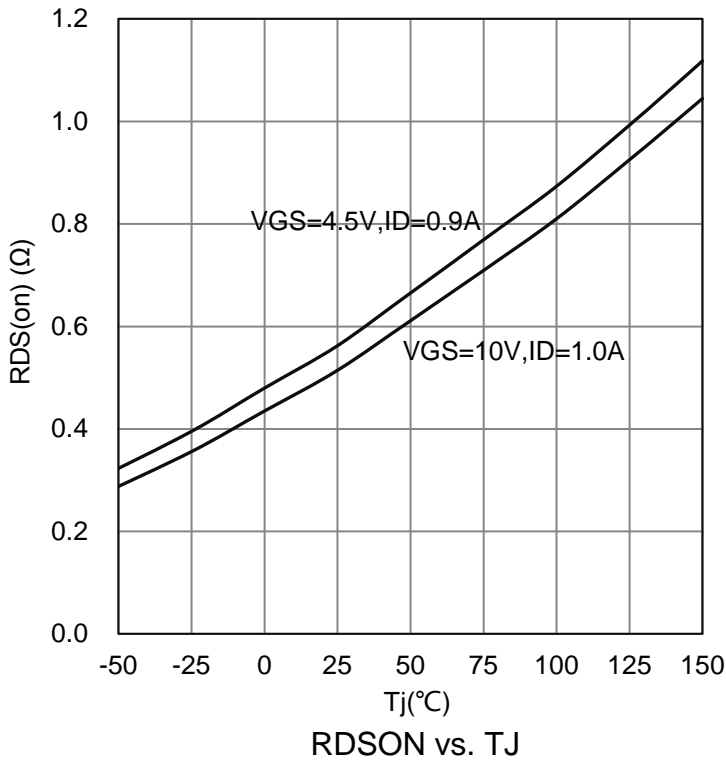
Characteristic	Symbol	Min.	Typ.	Max.	Unit
<b>STATIC</b>					
Drain–Source Breakdown Voltage (VGS = 0, ID = -250μA)	VBRDSS	-100	-	-	V
Gate Threshold Voltage (VDS = VGS, ID = -250μA)	VGS(th)	-1	-	-3.5	V
Gate Leakage Current (VDS = 0V, VGS = ±20V)	IGSS	-	-	±100	nA
Zero Gate Voltage Drain Current (VGS = 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
<b>DYNAMIC</b>					
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%.

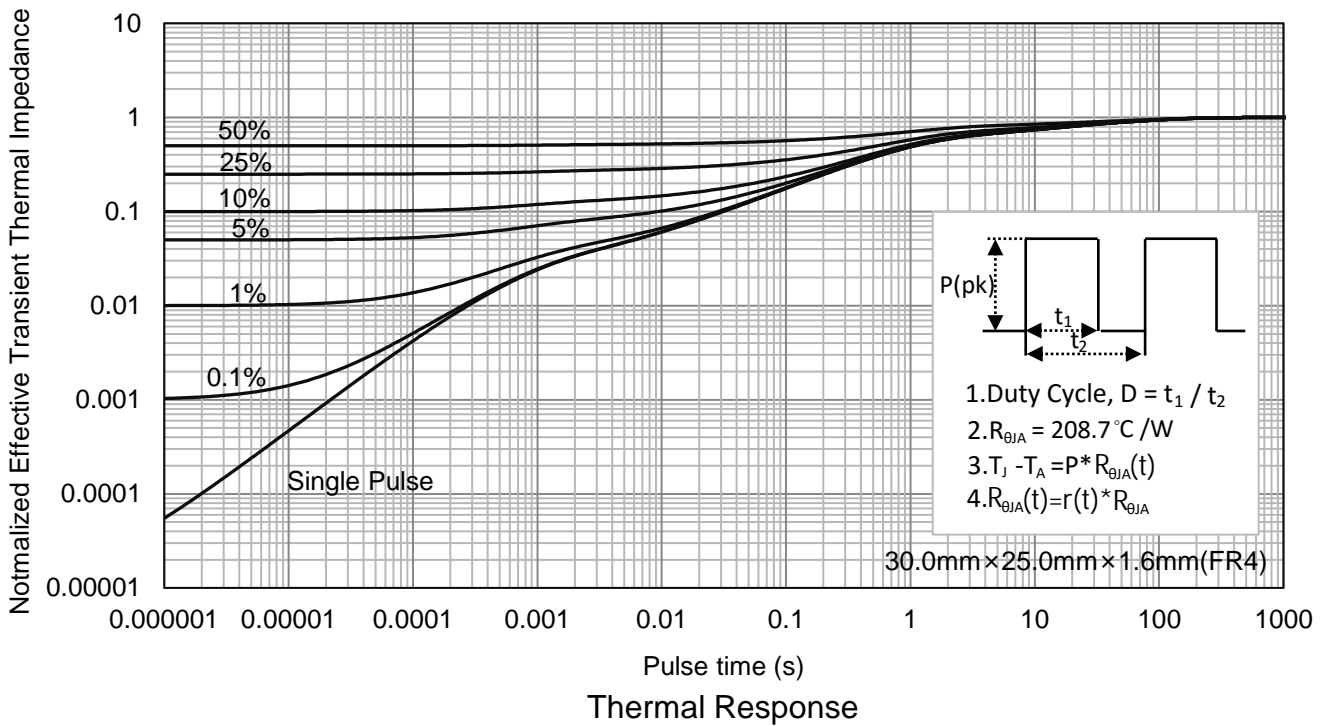
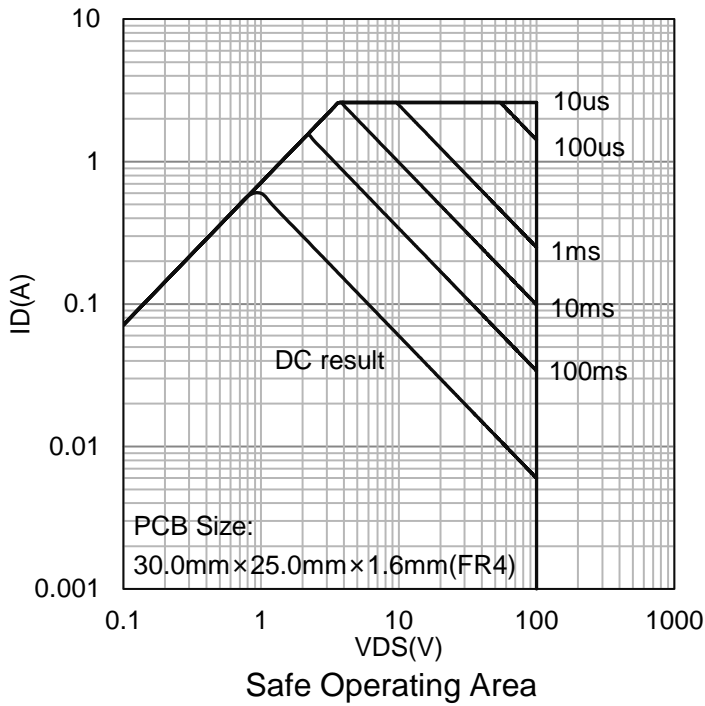
**6. ELECTRICAL CHARACTERISTICS CURVES**



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



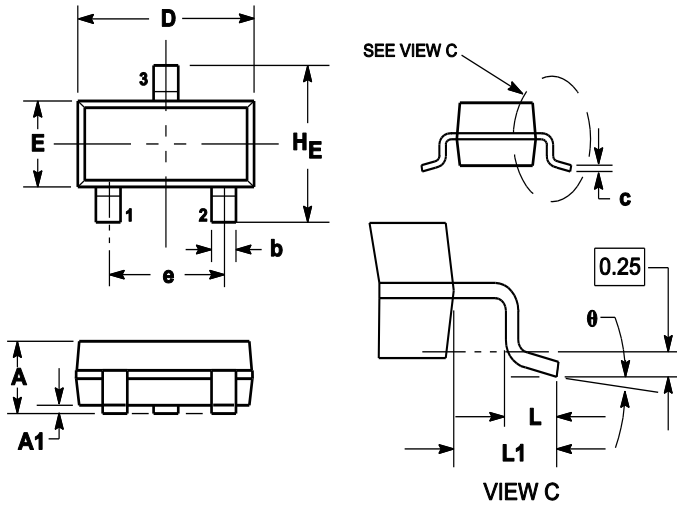
**6. ELECTRICAL CHARACTERISTICS CURVES(Con.)**



## 7. OUTLINE AND DIMENSIONS

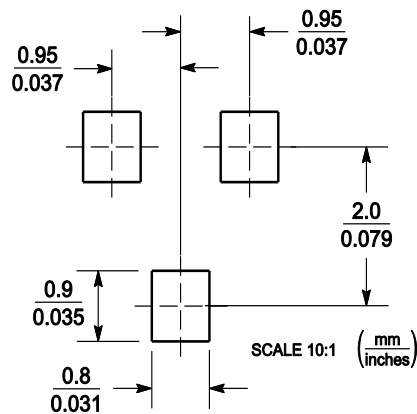
Notes:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.89	1	1.11	0.035	0.04	0.044
A1	0.01	0.06	0.1	0.001	0.002	0.004
b	0.37	0.44	0.5	0.015	0.018	0.02
c	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.9	3.04	0.11	0.114	0.12
E	1.20	1.3	1.4	0.047	0.051	0.055
e	1.78	1.9	2.04	0.07	0.075	0.081
L	0.10	0.2	0.3	0.004	0.008	0.012
L1	0.35	0.54	0.69	0.014	0.021	0.029
HE	2.10	2.4	2.64	0.083	0.094	0.104
θ	0°	---	10°	0°	---	10°

## 8. SOLDERING FOOTPRINT



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