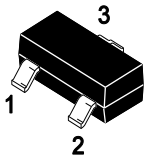
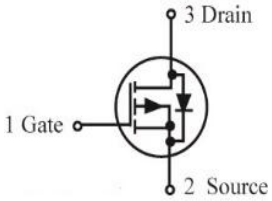
S-LP2371LT1G

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



SOT23(TO-236)



1. FEATURES

- RDS(ON)≤1.4Ω, Vgs@-10V
- RDS(ON)≤1.5Ω, Vgs@-4.5V
- Fast switching speed
- Low RDS(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
S-LP2371LT1G	E9	3000/Tape&Reel
S-LP2371LT3G	E9	10000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25ºC)

Parameter		Symbol	Limits		Unit
Drain–Source Voltage		VDSS	-100		V
Gate–to–Source Voltage – Continuous		VGS	±20		V
Continuous Drain Current(Note 1)	Ta=25℃	ID	-1		A
	Ta=70℃		-0.8		
Pulsed Drain Current(Note 2)		IDM	-2.6		
Power Dissipation(Note 1)	Ta=25℃	PD	1.3		W
	Ta=70℃		0.8		
Junction Temperature		Tj	150		℃
Storage Temperature Range		Tstg	-55~+150		℃
Thermal Resistance-Junction to Ambient(Note 1)		RθJA	t≤10s	100	℃/W
			Steady State	166	

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

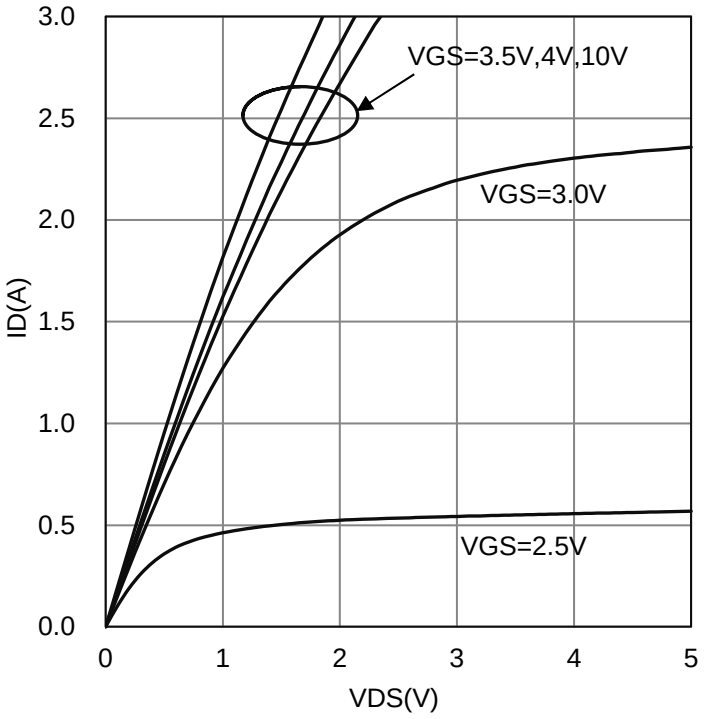
2.Pulse width limited by maximum junction temperature.

5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

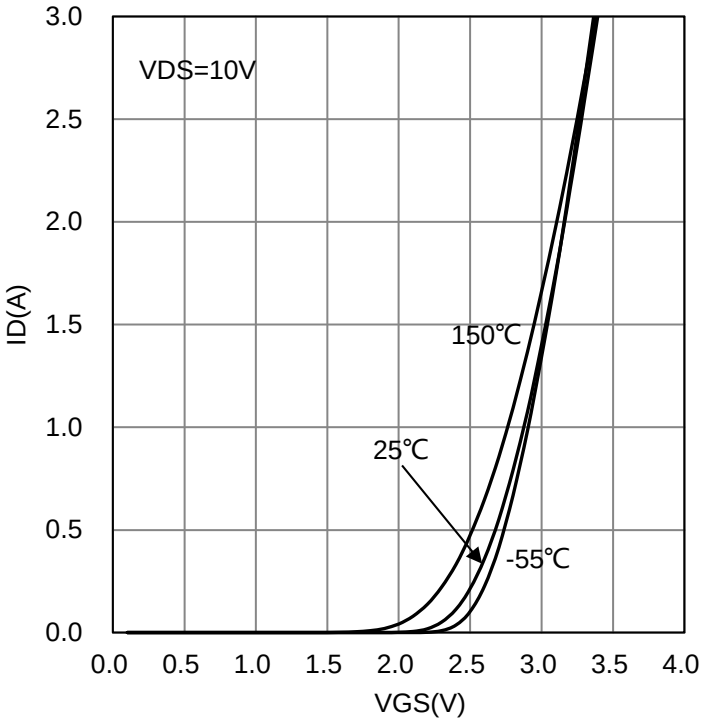
Characteristic		Symbol	Min.	Typ.	Max.	Unit
STATIC						
Drain–Source Breakdown Voltage (VGS = 0 V, ID = -250 μA)		VBRDSS	-100	-	-	V
Gate Threshold Voltage (VDS = VGS, ID = -250 μA)		VGS(th)	-1	-	-3.5	V
Gate Leakage Current (VDS = 0 V, VGS = ±20 V)		IGSS	-	-	±100	nA
Zero Gate Voltage Drain Current (VGS = 0V, VDS = -80 V)		IDSS	-	-	-1	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%.

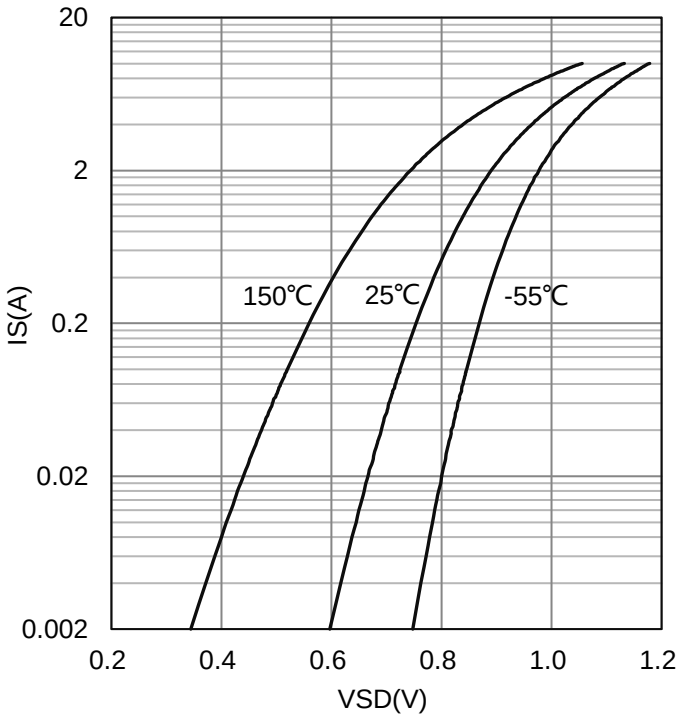
6.ELECTRICAL CHARACTERISTICS CURVES



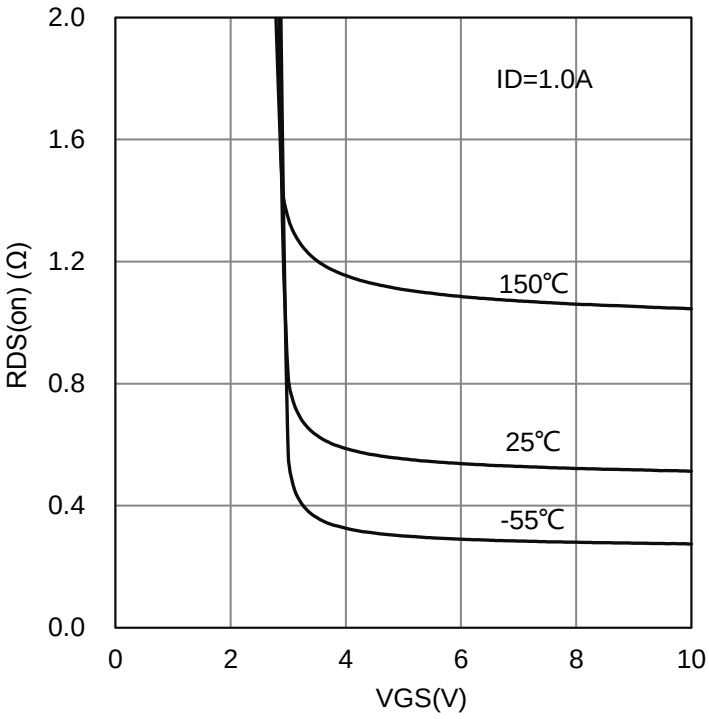
ID vs. VDS



ID vs. VGS

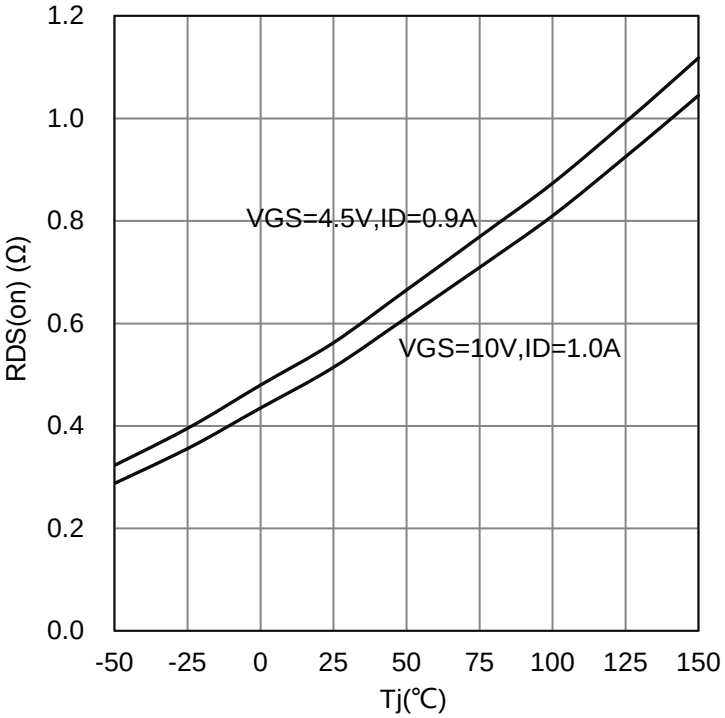


IS vs. VSD

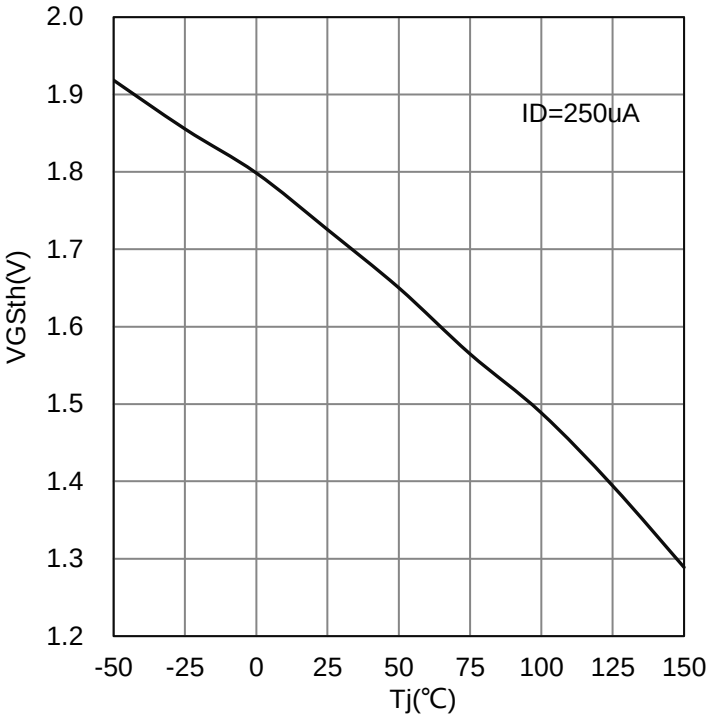


RDSON vs. VGS

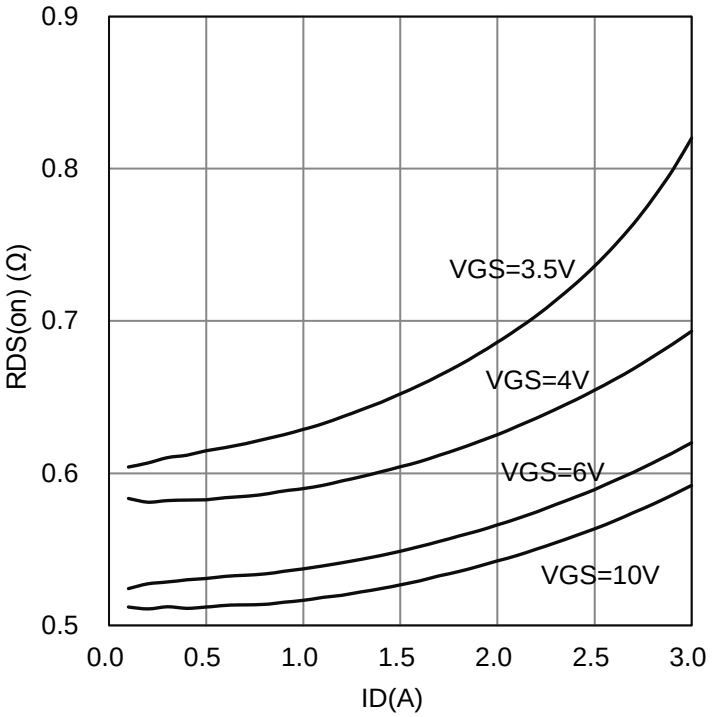
6.ELECTRICAL CHARACTERISTICS CURVES(Con.)



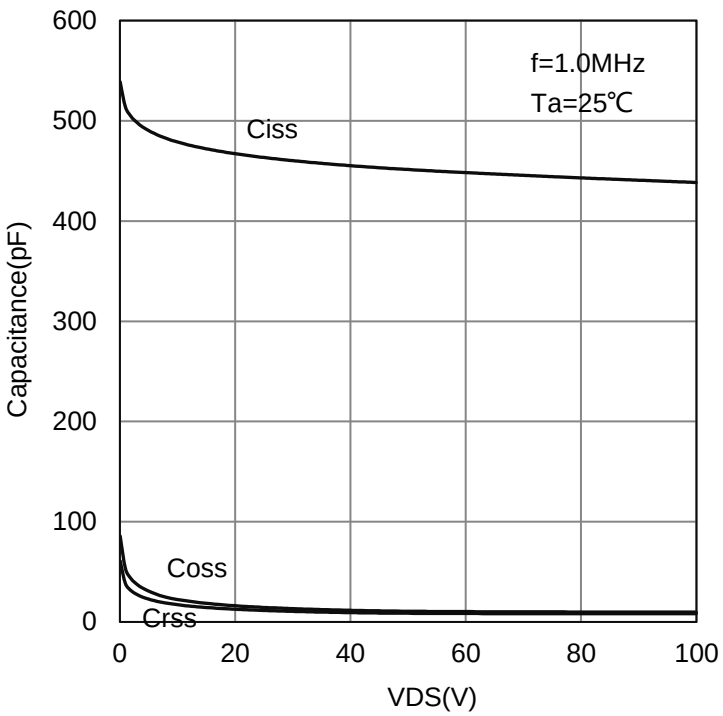
RDSON vs. TJ



VGSTH vs. Tj

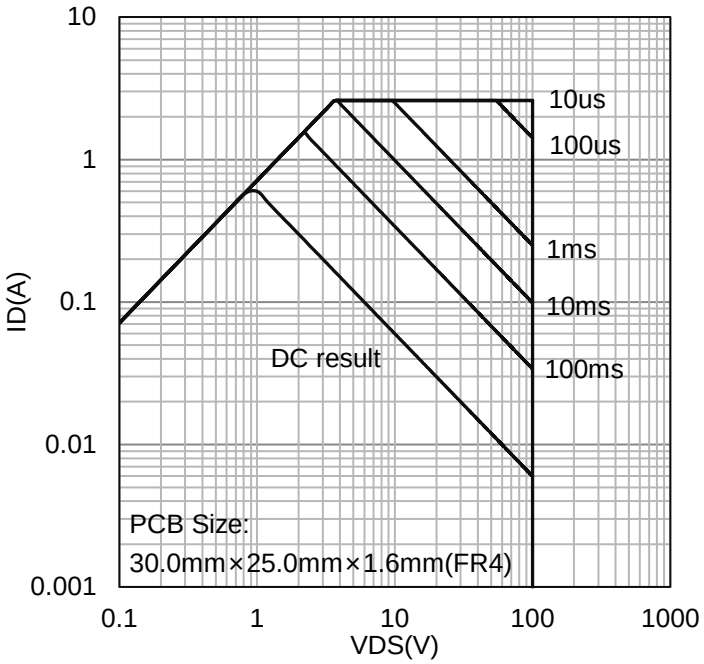


RDSON vs. ID

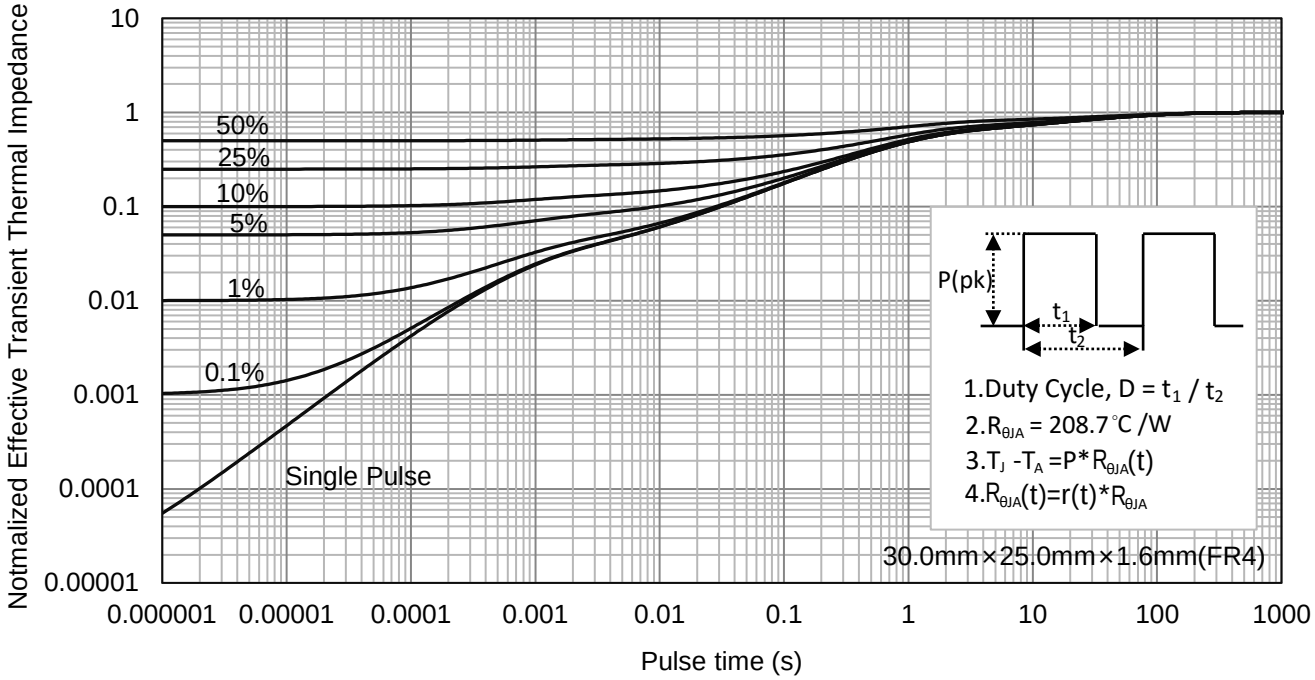


Capacitance

6. ELECTRICAL CHARACTERISTICS CURVES(Con.)

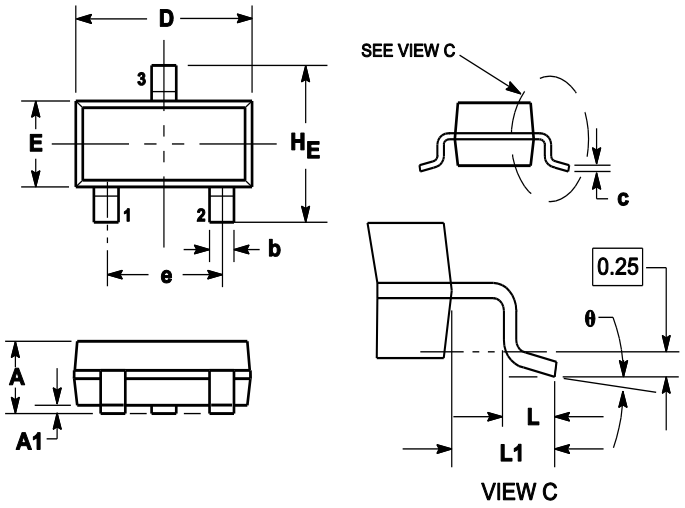


Safe Operating Area



Thermal Response

7.OUTLINE AND DIMENSIONS

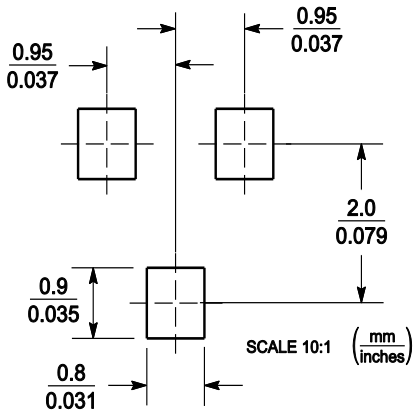


Notes:

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.

	MILLIMETERS			INCHES		
DIM	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
H_E	2.10	2.4	2.64	0.083	0.094	0.104
θ	0°	---	10°	0°	---	10°

8.SOLDERING FOOTPRINT



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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