

S-LN80N06D2

60V N-Channel MOSFET

1. FEATURES

- Improved dv/dt capability
- Fast switching
- 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

- Motor Drive
- Power Tools
- LED Lighting
- Quick Charger

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
S-LN80N06D2	80N06D2	2500pcs/Tape&Reel

4. MAXIMUM RATINGS

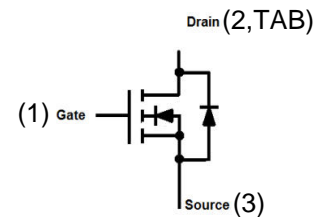
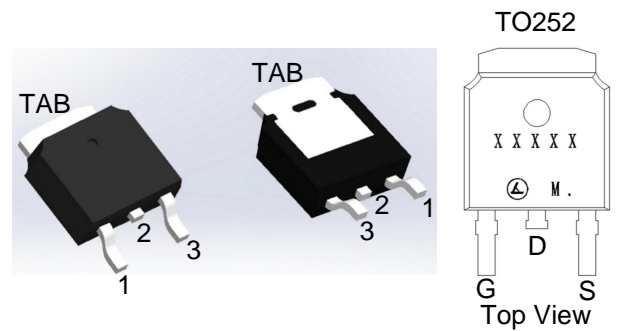
Parameter		Symbol	Limits	Unit
Drain-to-Source Voltage		VDS	60	V
Gate-to-Source Voltage		VGS	±20	V
Continuous Drain Current	TC=25°C	ID	46.3	A
	TC=100°C		30	
Pulsed Drain Current(Note 2)		IDM	185	A
Avalanche Current		IAS	18	A
Avalanche Energy(L=0.1mH)		EAS	16	mJ
Power Dissipation	TC=25°C	PD	57	W
	TC=100°C		23	
Operating Junction and Storage Temperature Range		Tj/Tstg	-55~+150	°C

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Max	Unit
Junction-to-Ambient(Note 1)	RθJA	50	°C/W
Junction-to-Case	RθJC	2.2	

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

2.Pulse width limited by maximum junction temperature.

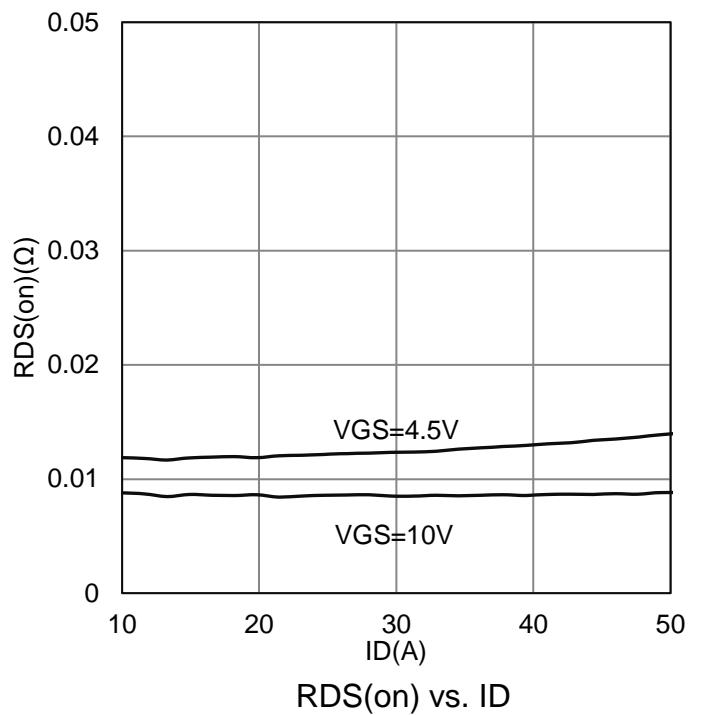
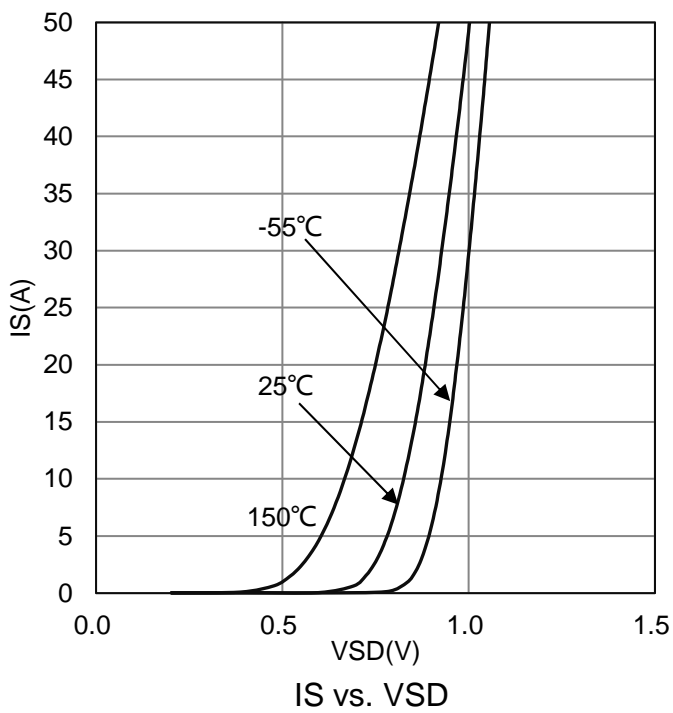
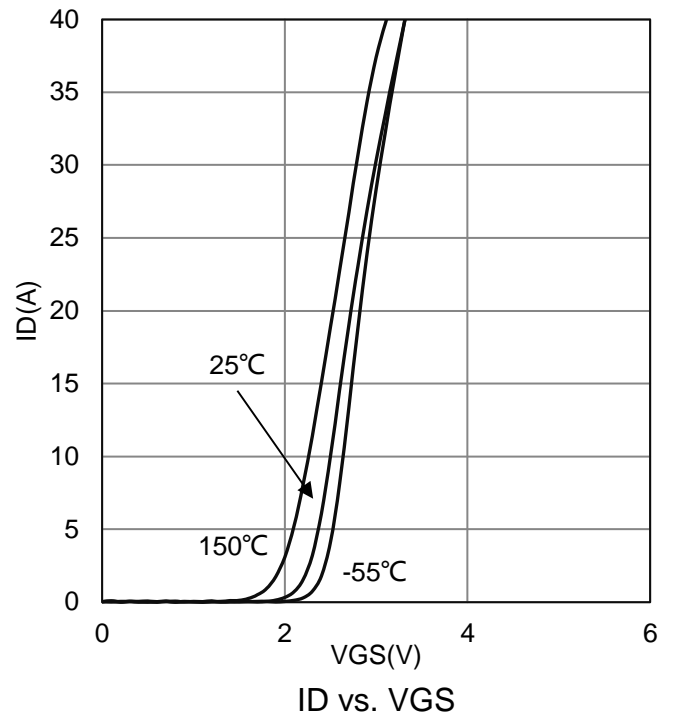
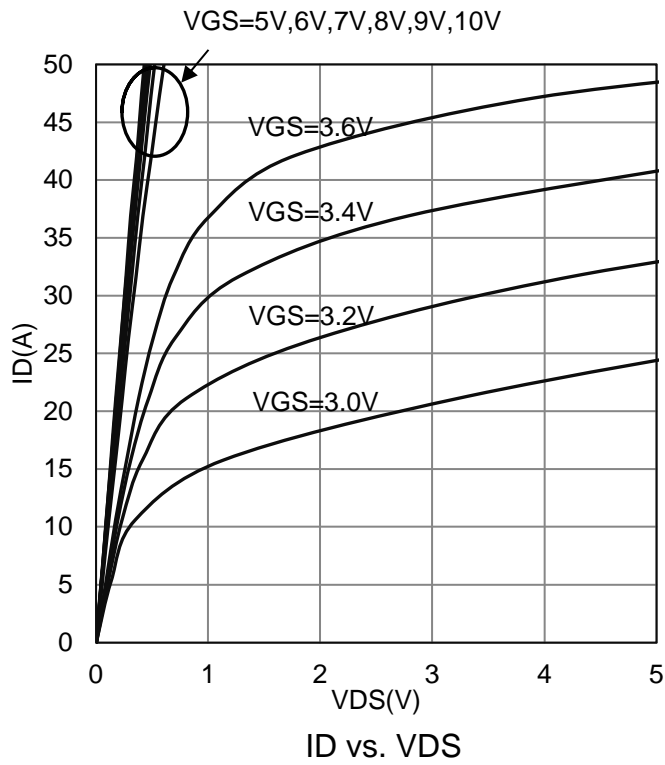


6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

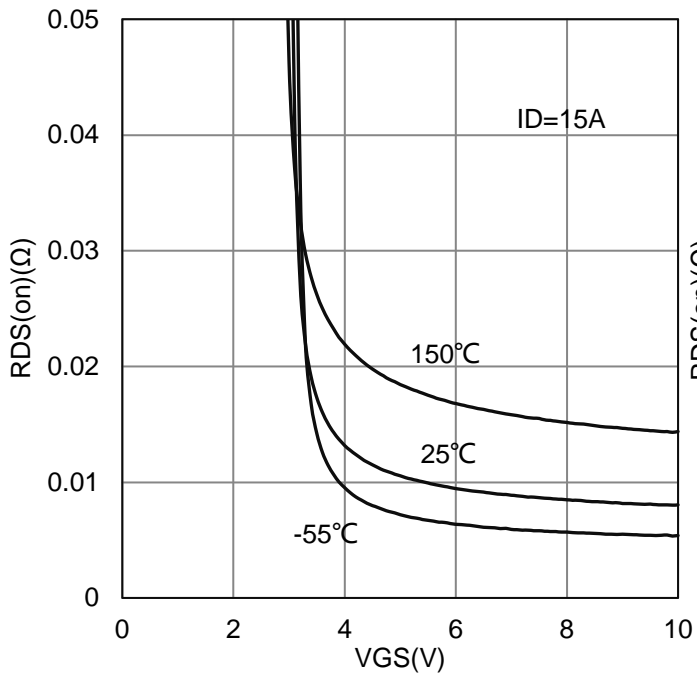
Characteristic	Symbol	Min.	Typ.	Max.	Unit	
Static						
Drain-Source Breakdown Voltage (VGS = 0 V, ID = 250 μA)	V(BR)DSS	60	-	-	V	
Drain-Source Leakage Current (VDS = 60 V, VGS = 0 V)	IDSS	-	-	1	μA	
Gate-Body Leakage Current (VGS = ±20 V, VDS = 0 V)	IGSS	-	-	±100	nA	
Gate Threshold Voltage (VDS = VGS, ID = 250 μA)	VGS(th)	1.2	1.6	2.5	V	
Static Drain-Source On-State Resistance(Note 3) (VGS = 10 V, ID = 15 A) (VGS = 4.5 V, ID = 12 A)	RDS(on)	-	-	9.5 14	mΩ	
Forward Voltage (VGS = 0 V, IS = 1 A)	VSD	-	-	1	V	
Dynamic						
Total Gate Charge	(VDS = 30 V, VGS = 10 V, ID = 15 A)	Qg	-	19.5	-	nC
Gate-Source Charge		Qgs	-	2.1	-	
Gate-Drain Charge		Qgd	-	6.7	-	
Turn-On Delay Time	(VDS = 30 V, ID = 1 A, VGS = 10 V, RG = 3.3 Ω)	td(on)	-	8	-	ns
Rise Time		tr	-	8.5	-	
Turn-Off Delay Time		td(off)	-	33	-	
Fall Time		tf	-	29	-	
Input Capacitance	(VDS = 30 V, VGS = 0 V, f = 1 MHz)	Ciss	-	860	-	pF
Output Capacitance		Coss	-	286	-	
Reverse Transfer Capacitance		Crss	-	20	-	

3. Pulse test: PW ≤ 300us duty cycle ≤ 2%.

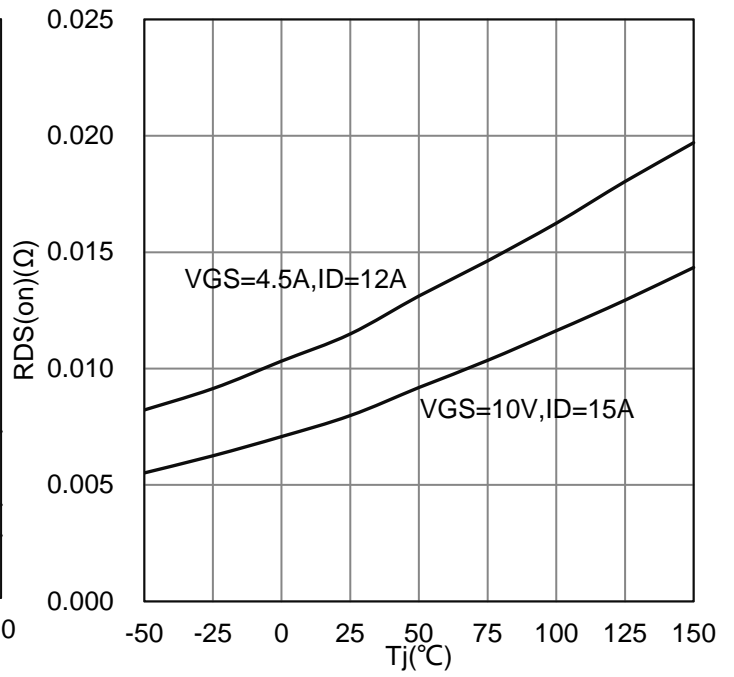
7. ELECTRICAL CHARACTERISTICS CURVES



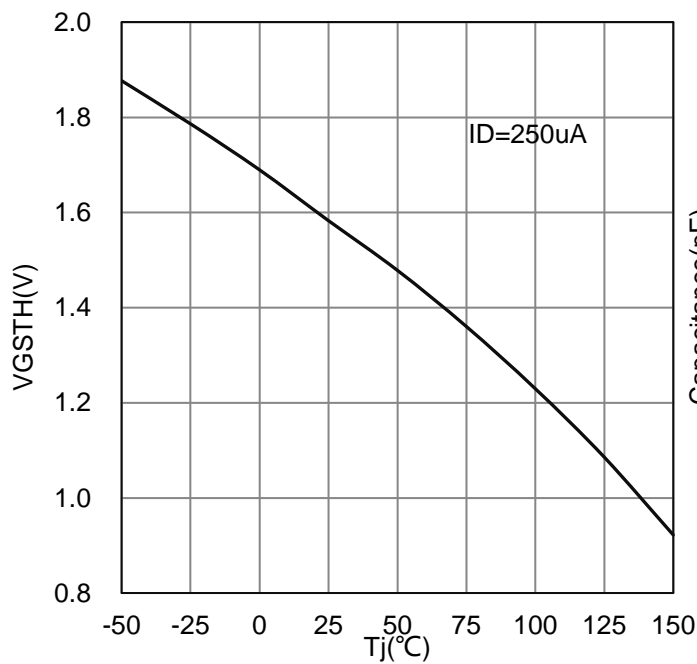
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



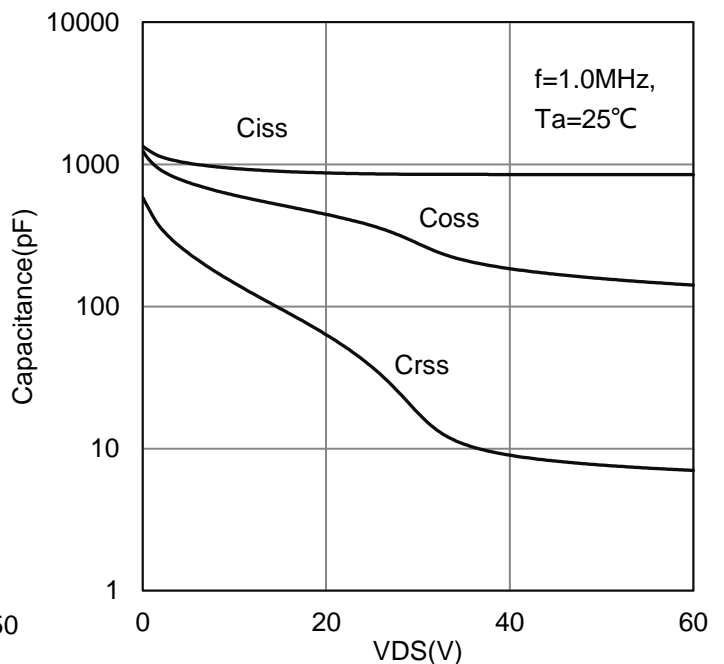
RDS(on) vs. VGS



RDS(on) vs. Tj

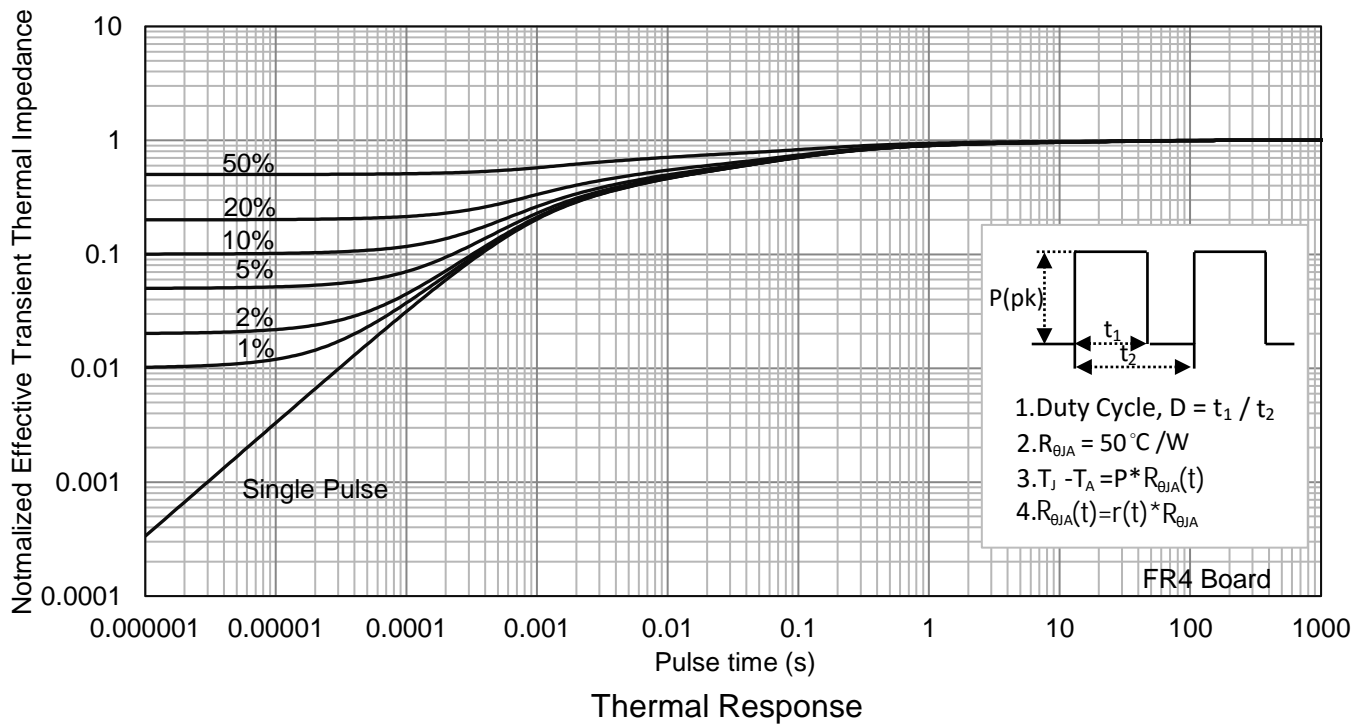
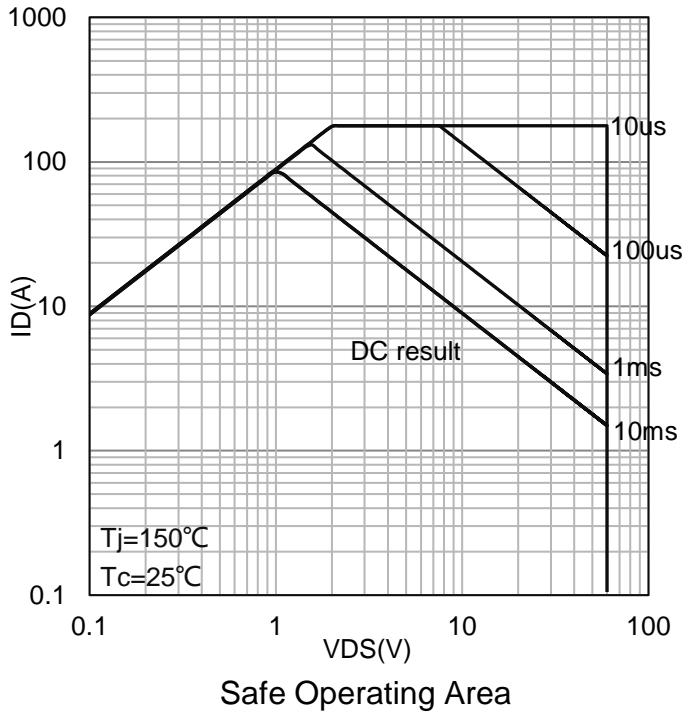


VGSth vs. Tj

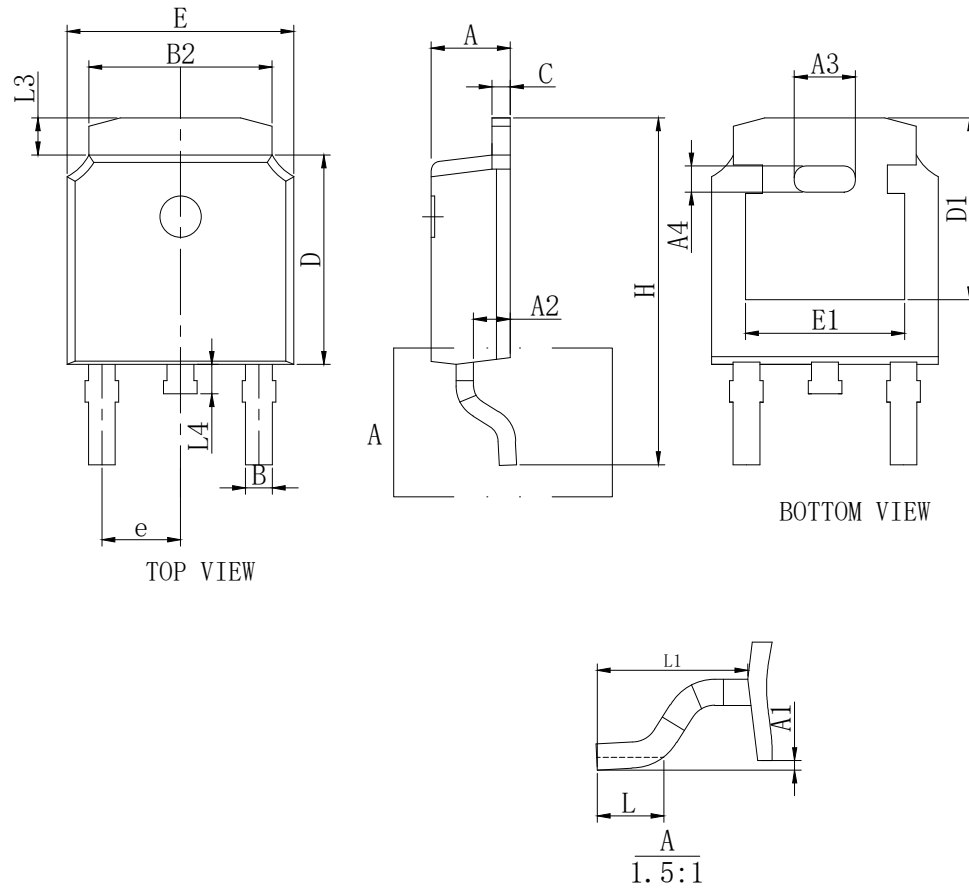


Capacitance

7. ELECTRICAL CHARACTERISTICS CURVES(Con.)

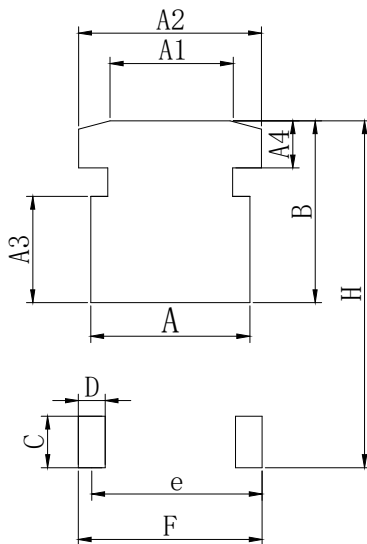


8.OUTLINE AND DIMENSIONS



DIM	MILLIMETERS		
	MIN	NOM	MAX
A	2.15	2.30	2.45
A1	0	-	0.20
A2	0.90	1.07	1.17
A3	1.58	1.78	1.98
A4	0.56	0.76	0.96
B	0.68	0.78	0.88
B2	5.20	5.33	5.46
C	0.49	-	0.58
D	5.90	6.10	6.30
D1	5.30REF		
E	6.40	6.60	6.80
E1	4.63	4.83	5.03
e	2.286BSC		
H	9.8	10.10	10.4
L	1.09	1.29	1.49
L1	2.90REF		
L3	0.88	1.08	1.28
L4	0.55	0.80	1.05

9.SOLDERING FOOTPRINT



DIM	MIN(mm)
A	6.03
A1	4.50
A2	6.46
A3	4.10
A4	2.37
B	6.50
C	2.50
D	1.68
e	4.80
H	12.35
F	5.95

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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