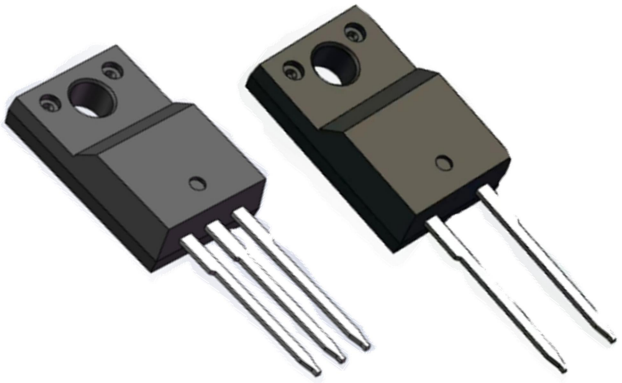
Isolation TO-220



ITO-220AB ITO-220AC

1：Certification

- System：
  IATF 16949
  ISO9001
  ISO14001
  ISO45001
- ROHS/REACH/ELV：
  Lead frame、Wire，Molding compound、Post plating.
- UL 94：V-0
- Whisker Test： JESD 201 class 1A
- AEC-Q101 (Rev E)： Qualified Available
- Solder bath temperature : 275°C maximum, 10 s

2：Product advantage

2.1 Isolation Characteristics

The isolation voltage test value of the similar type of product is 2500V in the industry.

Package	Symbol	Parameter	Conditions	Max	Unit
ITO-220（E-tech）	V isol	RMS isolation Voltage	50Hz≤f≤Hz；RH≤65% from pins to external heatsink sinusoidal waveform clean and dust free	3500	V
ITO-220 (others)				2500	

2.2 Thermal characteristics

Thermal resistance capacity is 2 times than similar product in the industry.

Data comparison between ITO-220 and ITO-220 in the industry（ Die size：150mil）：

Package	Symbol	Parameter	Conditions	Max	Unit
ITO-220（E-tech）	Rth（j-mb）	Thermal resistance from junction to mounting base	Full cycle	3	K/W
ITO-220 (others)				5.5	

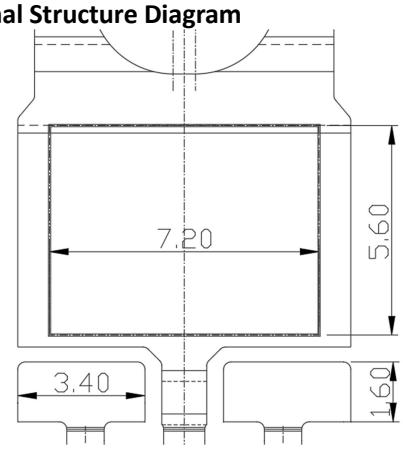
2.3 Mounting torque characteristics

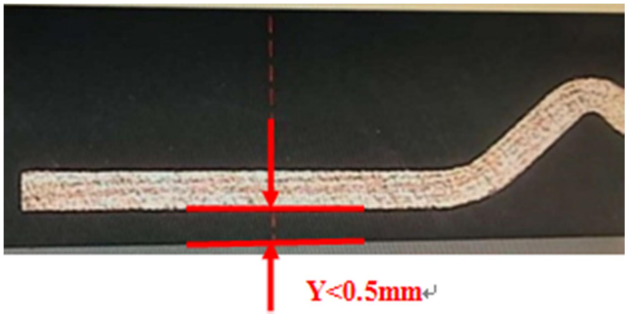
Circular hole heat sink cause 10N torque of the screw hole, Only 5N torque on similar product in the industry.

Data comparison （ Die size：150mil）：

Package	Symbol	Parameter	Conditions	Max	Unit
ITO-220（E-Tech）	Mounting torque	Isolated heat sink mounted	1 mounting hole	10	N
ITO-220 (others)				5	

3：Internal Structure Diagram





Compound thickness from heat sink to backside：< 0.5mm.

Meet Die Size

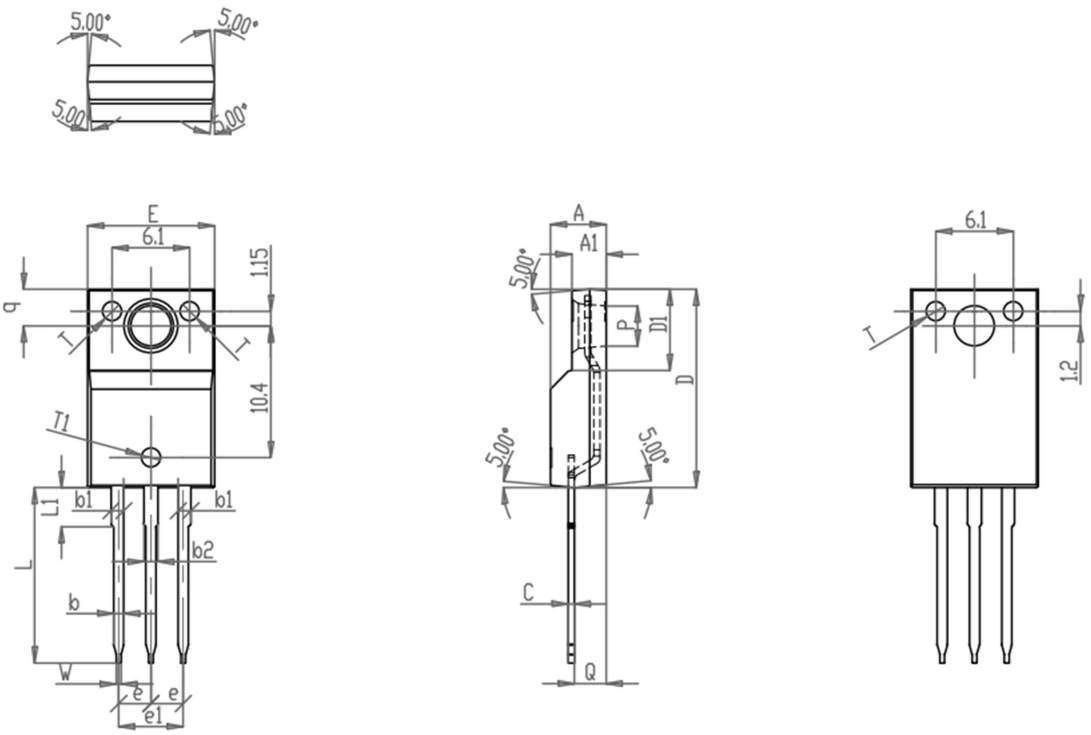
Die Pad(mm)	Die size(mm)	
X=7.20, Y=5.60	Double die (Max)	Single die(Max)
	X=2.85, Y=5.25	X=7.2, Y=5.25

4：Reliability Experiment

	Test	Test Condition
1	Temperature Cycle (TMCL)	500 cycles at -55°C to 150°C
2	Unbiased Highly Accelerated Stress Test (UHST)	96 hours at Ta = 130°C, RH = 85% ;P=2.27atm.
3	High Temperature, Humidity & Reverse Bias (THBS)	1000 hours at Tj = 85°C, RH = 85%, Reverse Bias = 80% rated voltage
4	Thermal Fatigue (TFAT)	10000 cycles, Tj = 25ºC to 125ºC, DTj ≥ 80ºC, Id=depends on device & Ton = Toff ~2.5 to 3.5 mins.
5	Static High Temperature Life (SHTL)	1000 hours – Tj = max operating temp, Reverse Bias = 80% / 100% rated voltage.
6	High Temperature Storage (HTSL)	1000 hours at Ta = 150°C or Ta=175°C

5：Package Outline Dimensions in millimeters

5.1 POD



SYMBOL	MILLIMETERS			NOTES	SYMBOL	MILLIMETERS			NOTES
	Normal	MIN.	MAX.			Normal	MIN.	MAX.	
A	4.4	4.2	4.6		e1	5.08	5	5.12	
A1	2.7	2.5	2.9		L	13.90	13.5	14.4	
b	0.8	0.7	0.9		L1	3.12	2.8	3.3	
b1	1.07	0.9	1.3		P	3.14	3.00	3.20	
b2	1.17	1	1.4		Q	2.44	2.3	2.6	
C	0.5	0.4	0.6		q	2.87	2.6	3	
D	15.63	15.4	15.8		W	0.37	0.3	0.5	
D1	6.22	6	6.4		T	1.52	1.3	1.7	
E	10.06	9.7	10.3		T1	1.20	1.1	1.3	
e	2.54	2.5	2.58						