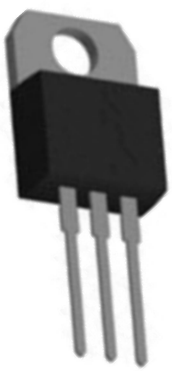
Inner Insulation TO-220



IITO-220AB

IITO-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.

Symbol	Parameter	Conditions		Max	Unit
V isol	RMS isolation Voltage	50Hz≤f≤Hz； RH≤65% from pins to external heatsink sinusoidal waveform clean and dust free		**3500**	V

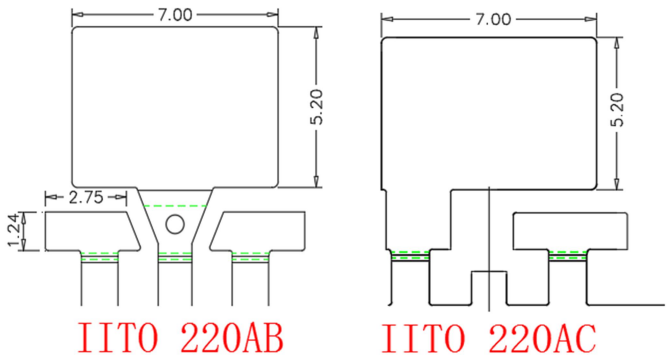
2.2 Void Performance/Thermal characteristics

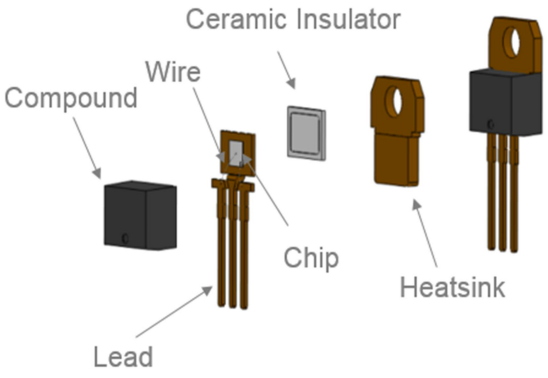
Single void < **3%**, and Total void<**6%,** thermal resistance capacity is 3 times than similar product in the industry.

Data comparison between IITO-220 and TO-220F（ Die size：150mil）:

Package	Symbol	Parameter	Conditions		Max	Unit
IITO-220	Rth（j-mb）	Thermal resistance from junction to mounting base	Full cycle		**1.9**	K/W
TO-220F					**5.5**	K/W

3：Internal Structure Diagram





Meet Die Size

Die Pad(mm)	Die size(mm)	
X=7.00, Y=5.20	Double die (Max)	Single die(Max)
	X=3.20, Y=4.80	X=6.60, Y=4.80

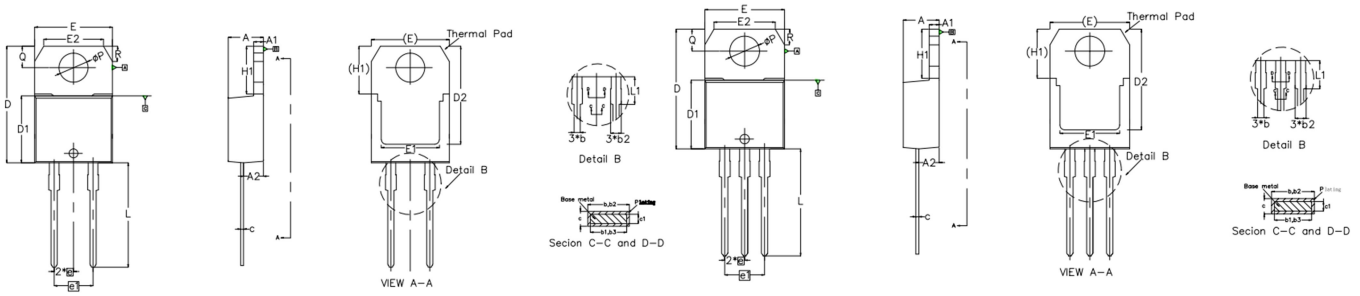
Inner Insulation TO-220

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 or
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.(according to customer request).
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 Normal	MIN.	MAX.	NOTES		SYMBOL	MILLIMETERS Normal	MIN.	MAX.	NOTES
A	4.45	4.35	4.75			E1	7.60	6.86	8.89	
A1	1.27	1.14	1.40			e	2.54	2.41	2.67	
A2	2.60	2.40	2.80			e1	5.08	4.88	5.28	
b	0.85	0.69	1.01			H1	6.20	6.00	6.40	
b1	0.83	0.38	0.97			L	13.35	13.00	13.70	
b2	1.46	1.20	1.73			L1	3.00	2.70	3.30	
b3	1.44	1.14	1.73			øP	3.80	3.70	3.95	
c	0.50	0.36	0.61			Q	2.80	2.60	3.00	
c1	0.48	0.36	0.56			E2	7.80	7.50	8.10	
D	15.50	15.20	15.80			R	2.00	1.70	2.20	
D1		8.50	9.02							
D2	12.85	12.20	12.88							
E	10.18	10.00	10.40							

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D	15.50	15.20	15.80			R	2.00	1.70	2.20	
D1		8.50	9.02							
D2	12.85	12.20	12.88							
E	10.18	10.00	10.40							

5.2 Package (Tube) Dimensions in millimeters