

Reference Conditions for Drying SMD Packages and Components



Drying at 1%Rh

**Drying at 5%Rh
IPC J-STD-033D**

Body Thickness	MSL	25° C	40° C	60° C	40° C	90° C
≤ 0.5 mm	2	Not Required	Not Required	Not Required	Not Required	Not Required
	2a	9 Hours	3 Hours	1 Hour	12 Hours	2 Hours
	3	18 Hours	6 Hours	1 Hour	22 Hours	3 Hours
	4	18 Hours	6 Hours	1 Hour	22 Hours	3 Hours
	5	18 Hours	6 Hours	1 Hour	23 Hours	3 Hours
	5a	21 Hours	7 Hours	2 Hour	26 Hours	4 Hours
> 0.5 mm ≤ 0.8 mm	2	Not Required	Not Required	Not Required	Not Required	Not Required
	2a	3 Days	1 Day	6 Hours	4 Days	15 Hours
	3	3 Days	1 Day	6 Hours	4 Days	15 Hours
	4	3 Days	1 Day	6 Hours	4 Days	16 Hours
	5	3 Days	1 Day	6 Hours	4 Days	16 Hours
	5a	3 Days	1 Day	6 Hours	4 Days	16 Hours
> 0.8 mm ≤ 1.4 mm	2	Not Required	Not Required	Not Required	Not Required	Not Required
	2a	6 Days	2 Days	12 Hours	8 Days	25 Hours
	3	6 Days	2 Days	12 Hours	8 Days	25 Hours
	4	9 Days	3 Days	15 Hours	10 Days	27 Hours
	5	9 Days	3 Days	17 Hours	11 Days	28 Hours
	5a	9 Days	3 Days	18 Hours	12 Days	30 Hours
> 1.4 mm ≤ 2.0 mm	2	18 Days	6 Days	38 Hours	25 Days	63 Hours
	2a	21 Days	7 Days	2 Days	29 Days	3 Days
	3	27 Days	9 Days	2 Days	37 Days	4 Days
	4	36 Days	12 Days	3 Days	47 Days	5 Days
	5	42 Days	14 Days	4 Days	57 Days	6 Days
	5a	60 Days	20 Days	5 Days	79 Days	8 Days
> 2.0 mm ≤ 4.5 mm	2	60 Days	20 Days	5 Days	79 Days	10 Days
	2a	60 Days	20 Days	5 Days	79 Days	10 Days
	3	60 Days	20 Days	5 Days	79 Days	10 Days
	4	60 Days	20 Days	5 Days	79 Days	10 Days
	5	60 Days	20 Days	5 Days	79 Days	10 Days
	5a	60 Days	20 Days	5 Days	79 Days	10 Days
Exception for BGA package > 17 mm x 17 mm or any stacked die package	2 - 5a	Not applicable	Not applicable	64 days	Not applicable	Not applicable

The information given above is only for general guide and advise. There are several parameters like Moisture levels, Moisture gains of components, Ambient conditions, Package types etc involved in moisture absorption and drying.