



Baking Time and Moisture Sensitivity Label Information

Greenliant devices in surface mount packages have been tested for moisture sensitivity level 3 (MSL3) in accordance with IPC/JEDEC standard J-STD-020. Prior to shipment, Greenliant bakes devices to remove moisture and then seals devices in moisture barrier bags with desiccant and humidity indicator cards (HIC) in compliance with industry standard procedures described in IPC/JEDEC standard J-STD 033. Greenliant has conducted moisture sensitivity, absorption and desorption studies to ensure surface mount packages do not exhibit package cracking or delamination due to the “popcorn effect” during solder reflow mounting.

Exposing devices to high humidity environments should be minimized and open bag floor life should be monitored carefully (see Table 1). Device baking is required prior to reflow solder mounting when any of the following conditions are met:

- (1) devices are out of the moisture barrier bag longer than the specified customer floor life
- (2) devices are stored out of the bag at >20% Relative Humidity (RH)
- (3) the HIC packed with the devices shows >20% RH when read in the range of 23°C to 28°C

See Table 2 for Greenliant ball grid array (BGA) package body thickness values when referring to IPC/JEDEC standards J-STD-020 and J-STD 033.

Table 1: Greenliant Package Baking Conditions and Moisture Sensitivity Level

Package	Package Codes	Bake Time at 125°C	Dry Pack	Moisture Bag Sensitivity Label Information		
				Moisture Sensitivity Level	Maximum Peak Reflow Temp	Customer Floor Life
PLCC (non-Pb)	NHE	6 hrs -0/+18 hrs	Y	3	260°C	168 hours
TSOP (non-Pb)	WHE, EHE, EKE	2 hrs -0/+22 hrs	Y	3	260°C	168 hours
TQFP	TQWE	2 hrs -0/+22 hrs	Y	3	260°C	168 hours
Laminate Packages BGA	ALL	8 hrs -0/+1 hrs	Y	3	260°C	168 hours

Table 2: Greenliant BGA Package Codes and Package Body Thickness

Greenliant BGA Package Codes	Package Body Thickness (in mm)		
	Max	Nom	Min
B3KE	0.900	0.750	0.600
BZJE	0.870	0.720	0.570
FTE	1.326	1.290	1.254
FZJE	1.395	1.350	1.305
LBTE, LFTE, LFWE	0.936	0.900	0.864