Isola Lead Free Compatible Laminate Product Offering

	IS400	DE156	IS410	IS420	IS415	IS500	FR408	IS620	IS640-D	P95	P96/P97*
Description	150 Tg Filled non dicy	Halogen Free 150 Tg	Phenolic Cured 170 Tg	Phenolic Cured Filled 170 Tg	Non Phenolic, Non Dicy-190 Tg	170 Tg Halogen Free	180 Tg, Low DK Low Loss	215 Tg Low DK, Very Low Loss	Very Low DK very Low Loss	>250 Tg Polyimide HB	>250 Tg Polyimide V-0/V-1
Applications	Auto & consumer	Halogen Free	High Rel.lead free	Very High Thermal rel.	High Speed, High reliability	High Speed, High rel, halogen free	High Speed Digital apps	Very High Speed Digital Apps.	Very High Speed Digital Apps.	Military/Computers, Down Hole Drilling	Military/Computers,
Lead Free Compatible	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Halogen Free	No	Yes	No	No	No	Yes	No	No	No	No	No
CAF resistant Chemistry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ROHS and WEEE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Thermal Cycling rating-IST/TCT/HATS	Very High	Very High	High	Very High	Very High	Very High	High	Very High	High	Very High	Very High
Tg-DSC Deg C	150	150	175	170	190	170	180	215	225	>250	>250
X CTE PPm/C below Tg	13	13	13	13	13	13	13	13	11	14	14
Y CTE PPm/c below Tg	14	14	14	14	14	14	14	14	10	17	17
Z Alpha 1 CTE PPm/C	45	45	60	40	55	50	65	55	NA	55	60
Overall expansion 20-288 Deg C Percent	3.00%	3.00%	3.50%	2.80%	2.90%	2.80%	3.50%	2.80%	3.60%	1.50%	1.50%
Decomposition temp Deg C Onset	330	380	350	340	370	400	360	353	350	416	382
T-260 Minutes	60	60	60	60	60	60	60	60	60	60	60
T-288 Minutes	>5	>5	>15	>15	>20	>15	>15	>15	>10	60	60
Peel Strength lb/inch	>7.4	>6.3	>6.3	>6.3	>6.3	>6.3	>5.5	>6.3	>5.5	>6.3	>6.3
Peel Strength N/mm	>1.3	>1.1	>1.1	>1.1	>1.1	>1.1	>1.1	>1.1	>1	>1.1	>1.1
Dk -2 Ghz	4.00	4.00	4.00	4.00	3.90	3.90	3.60	3.60	3.0-3.6	3.90	3.90
Df-2 Ghz	0.0200	0.0200	0.0210	0.0200	0.0160	0.0160	0.0110	0.0080	<.0045	0.0170	0.0170
Dk-10 Ghz	3.90	3.90	3.90	3.90	3.80	3.80	3.55	3.55	3.0-3.6	3.80	3.80
Df-10 Ghz	0.0220	0.0220	0.0230	0.0210	0.0170	0.0170	0.0125	0.0080	<.0045	0.0200	0.0200
* Only For Europe											