Thermal Performance via FEA

for

Pericom PI7C9X2G404-304SL LQFP 128L 14x14 Epad

Thermal FEA Results

Power (Watt)	Ta (℃)	T_J (℃)			Θ_{JA} (℃/W)			Θ_{JC} (℃/W)
		0 m/s	1 m/s	2 m/s	0 m/s	1 m/s	2 m/s	
0.96	85	109.5	105.4	104.1	25.5	21.3	19.9	11.7

T_a: Ambient Temperature = 85℃
T_J: Junction Temperature
Maximum allowable junction temperature = 125℃
Θ_{JA}: Thermal Resistance, Junction-to-Ambient
Θ_{JC}: Thermal Resistance, Junction-to-Case

Conclusion

- From the thermal simulation result, package LQFP 128L 14x14 Epad (device PI7C9X2G404-304SL) in still air is able to dissipate required amount of power 0.96W at ambient temperature of 85℃ while keeping the maximum junction temperature well below 125℃.
- The maximum die junction temperature in still air is 109.5℃.
- The Theta ja value in still air is 25.5℃/W.
- The Theta jc value is 11.7℃/W.