CT338 RF PCB Material is made of ceramic and glass fiber cloth by a strict manufacturing process. It is a thermosetting material, suitable for 4G, 5G, base station antenna, WIMAX antenna networks, automotive radar and sensor, power amplifiers, microwave devices, high-reliability radar, military communication devices, satellite tuners, etc.

Specifications of CT338

<table>
<tr><td>Appearance</td><td colspan="7">Conform to the Chinese national standard for microwave PCB materials</td></tr>
<tr><td>Model</td><td colspan="7">CT338</td></tr>
<tr><td>Dielectric properties</td><td colspan="7">Dielectric constant(10GHZ): 3.38±0.05
Tangent value of dielectric loss angle(10GHZ): 0.0029</td></tr>
<tr><td rowspan="2">Overall dimension (mm)</td><td colspan="7">610×460 600×500 915×1224</td></tr>
<tr><td colspan="7">Customized special size</td></tr>
<tr><td>Copper foil optional specifications</td><td colspan="3">Forward rotating copper foil:
0.5OZ, 1OZ</td><td colspan="4">Reverse copper foil: 0.5OZ, 1OZ</td></tr>
<tr><td rowspan="6">Thickness dimension and tolerance(mm)</td><td rowspan="2">Medium thickness (When matched with positive copper foil) And tolerances</td><td>0.203</td><td>0.305</td><td>0.406</td><td>0.508</td><td>0.813</td><td>1.524</td></tr>
<tr><td>±0.015</td><td>±0.02</td><td>±0.03</td><td>±0.04</td><td>±0.05</td><td>±0.08</td></tr>
<tr><td rowspan="2">Medium thickness (When matching with reverse copper foil) And tolerances</td><td>0.221</td><td>0.323</td><td>0.424</td><td>0.526</td><td>0.831</td><td>1.542</td></tr>
<tr><td>±0.015</td><td>±0.02</td><td>±0.03</td><td>±0.04</td><td>±0.05</td><td>±0.08</td></tr>
<tr><td colspan="7">Special thickness can be customized, starting from 0.508mm and increasing by 0.1mm</td></tr>
<tr><td rowspan="2">Mechanical properties</td><td rowspan="2">Peel strength of copper foil(10Z)</td><td colspan="6">Forward rotating copper foil: 10N/cm</td></tr>
<tr><td colspan="6">Reverse adhesive backed copper foil: 8N/cm</td></tr>
<tr><td>Thermal stress</td><td colspan="7">Tin dipping, 280℃ * 10s, ≥ 3 times, no delamination, no foaming</td></tr>
<tr><td>Chemical properties</td><td colspan="7">According to the characteristics of the substrate, the printed circuit can be processed by the chemical etching method without changing the dielectric properties of the material.</td></tr>
</table>

Why choose IPCB for RF PCB manufacturing?

IPCB has more than ten years of experience in RF PCB manufacturing, and IPCB professionals have professional knowledge of PCB manufacturing based on RF PCB materials. IPCB has been committed to providing RF PCB manufacturing for various products around the world. IPCB provides satisfactory services to customers and establishes long-term cooperative relations with customers.

Physical and electrical performance

Index name	Test conditions		Unit	Index value		
Tg	TMA		℃	>280		
Td	TGA		℃	421		
specific weight	normal behavior			1.78		
Water absorption	Immerse in distilled water at 20 ± 2 ℃ for 24 hours		%	0.07		
Operating temperature	High and low temperature box		℃	-50~+260		
Thermal conductivity			Kcal/m h℃	0.7		
CTE(Typical value)	-55 º~288℃		ppm/℃	X	Y	Z
				14	16	50
Surface insulation resistance	500V(DC)	normal behavior	M.Ω	≥7×108		
		Steady damp-heat		≥8×107		
Volume resistance	normal behavior		MΩ.cm	≥6×109		
	Steady damp-heat			≥8×107		
Temperature coefficient of dielectric constant	(PPM/℃) -50℃~150℃		45			
PIM value	2*43dBc		dBc	≤ -162		
Tangent value of dielectric loss angle	2.5GHZ		tgδ	0.0024		
	10GHZ		tgδ	0.0029		
Flame retardancy	Non flame retardant					

CT338 RF PCB Material and Features

1. Organic polymer ceramic glass fiber cloth is a thermosetting resin system, which has better hardness than PTFE thermoplastic resin system and good loss value.
2. Excellent PIM index when matching with reverse copper foil.
3. DK and DF values are stable, and DK/DF changes little with the increase in frequency.
4. It has excellent electrical performance, excellent heat conduction, and better insulation performance and heat treatment capacity than PTFE materials.
5. It can be compatible with the processing technology of FR-4 and does not need plasma treatment. The processing technology is relatively simple and can be compatible with most PP chips. The PCB has excellent processability, especially suitable for the processing of PCB multilayer boards.
6. Low thermal expansion coefficient improves the reliability and dimensional stability of plated through-hole.
7. Especially suitable for the lead-free welding process.

For more details, please contact the iPCB website: www.ipcb.com