



PCBMASTER

High-Speed PCB Material Selection Guide

2025/9/17

Supplier	PCB Material	Operating Frequency	Material Properties							Price Index	Applications
			DK	DF	Tg	Td	Z-CTE	T288	Water Absorption		
			(HZ)	(HZ)	(DSC)	(TGA)	(50-260)	(min)	(%)		
SY	S7439	1-5 GHz	3.85	0.0045	190℃	383℃	2.60%	> 120min	0.09%	2.0	Server, Switch, and Base Station Backplanes, Line Cards, High-Performance Computing Systems, and Office Routers, and more
TUC	TU-662		4.4	0.018	150℃	340℃	3.20%	> 10min	0.13%	2.8	Automotive, Consumer Electronics, and other applications
	TU-768		4.3	0.021	180℃	350℃	2.70%	> 15min	0.18%	3.0	Server, Workstation, Automotive, Consumer Electronics, and other similar applications
	TU-862S		4.2	0.011	175℃	370℃	2.20%	> 60min	0.13%	3.6	Backplanes, High-Performance Computing Systems, Line Cards, Storage, Servers, Telecommunications, Base Stations, Office Routers, and other related devices
ITEQ	IT-170GRA1TC		3.8	0.008	180℃	380℃	2.70%	> 60min	0.10%	3.8	Server, Switch, and Base Station Backplanes, Line Cards, High-Performance Computing, Office Routers, and other related devices
ISOLA	FR406		3.92	0.0172	170℃	300℃	3.50%	> 2min	0.20%	3.2	Servers, Workstations, Automotive, Consumer Electronics, and other similar applications
	FR408HR		3.64	0.0098	190℃	360℃	2.80%	> 30min	0.06%	3.8	Backplanes, High-Performance Computing, Line Cards, Storage, Servers, Telecommunications, Base Stations, Office Routers, and other related devices
Panasonic	M4 (R5725)		3.8	0.007	175℃	362℃	2.80%	> 30min	0.13%	4.6	ICT infrastructure equipment, Supercomputers, Routers, Servers, Test & Measurement Equipment, Telecommunications, Antennas, and other related devices
EMC	EM370		4	0.015	175℃	385℃	2.20%	> 60min	0.13%	3.2	Servers, High-Performance Computers, Telecommunications, and other related applications
	EM828		3.8	0.011	170℃	380℃	2.60%	> 20min	0.08%	3.8	High-Speed Servers, High-Performance Computers, Telecommunications, and other related applications
SY	Synamic 6	5-10 GHz	3.68	0.0036	185℃	402℃	2.00%	> 120min	0.10%	2.5	Ultra-High-Speed Network Equipment: Servers, Switches, Storage, Routers, Base Station BBUs, High-Performance Computing, High-Frequency Test Instruments, and Optical Communication Products
TUC	TU-863 ThunderClad 1		3.9	0.0095	180℃	365℃	2.60%	> 60min	0.13%	3.8	Backplanes, High-Performance Computing, Line Cards, Storage, Servers, Telecommunications, Base Stations, and Office Routers
	TU-872SLK		3.8	0.009	200℃	340℃	2.50%	> 20min	0.15%	4.0	Backplanes, High-Performance Computing, Line Cards, Storage, Servers, Telecommunications, Base Stations, and Office Routers
ITEQ	IT-958GTC		3.7	0.007	175℃	400℃	2.50%	> 60min	0.08%	4.2	High-Speed Servers, Switches and Base Station Backplanes, Line Cards, High-Performance Computing, Office Routers, and other related devices
ISOLA	I-Speed		3.63	0.006	180℃	360℃	2.70%	> 60min	0.06%	4.6	Backplanes, Supercomputers, Routers, Servers, Test & Measurement Equipment, Telecommunications, Antennas, and other related devices
Panasonic	M4 (R5725)		3.8	0.007	175℃	362℃	2.80%	> 30min	0.13%	4.6	ICT Infrastructure Equipment, Supercomputers, Routers, Servers, Test & Measurement Equipment, Telecommunications, Antennas, and other related devices
EMC	EM-828		3.7	0.0073	190℃	390℃	2.60%	> 60min	0.10%	4.0	High-Speed Servers, High-Performance Computers, Telecommunications, and other related applications
AGC	N4800-20		3.55	0.0075	200℃	360℃	2.00%	> 40min	0.07%	4.4	High-Speed Servers, Switches and Base Station Backplanes, Storage, High-Performance Computing, Office Routers, and other related devices
	N4000-13		3.6	0.009	210℃	350℃	3.50%	> 10min	0.10%	4.2	
SY	Synamic 6N		3.35	0.0021	185℃	402℃	2.00%	> 120min	0.10%	3.8	Ultra-High-Speed Network Equipment, Servers, Switches, Storage, Routers, Base Station BBUs, High-Performance Computing, High-Frequency Test Instruments, Optical Communication Products, etc.
TUC	TU-883 ThunderClad 2		3.39	0.0045	210℃	420℃	2.50%	> 60min	0.08%	5.2	Backplanes, High-Performance Computing, Line Cards, Storage, Servers, Telecommunications, Base Stations, and Office Routers
ITEQ	IT-968G		3.59	0.005	175℃	400℃	2.30%	> 60min	0.15%	5.0	High-Speed Servers, Switches and Base Station Backplanes, Line Cards, High-Performance Computing, Office Routers, and other related devices

ISOLA	I-Tera MT40	10-25 GHz	3.45	0.0031	215°C	360°C	2.80%	> 60min	0.10%	5.4	Backplanes, Supercomputers, Routers, Servers, Test & Measurement Equipment, Telecommunications, Antennas, and other related devices
Panasonic	M6 (R5775K)		3.34	0.0037	185°C	410°C	/	> 120min	0.14%	5.8	ICT Infrastructure Equipment, Supercomputers, Routers, Servers, Test & Measurement Equipment, Telecommunications, Antennas, and other related devices
EMC	EM-888K		3.2	0.0062	195°C	390°C	2.40%	> 60min	0.10%	5.0	High-Speed Servers, High-Performance Computers, Telecommunications, and other related applications
	EM-891		3.6	0.0043	190°C	400°C	2.20%	> 60min	0.10%	5.2	High-Speed Servers, High-Performance Computers, Telecommunications, and other related applications
AGC	METEORWAVE-1000		3.4	0.0047	215°C	390°C	1.50%	> 120min	0.12%	4.4	Core Routers, High-Speed Switches, Supercomputers, and other related devices
	METEORWAVE-2000		3.2	0.0034	215°C	390°C	1.50%	> 120min	0.12%	4.6	Core Routers, High-Speed Switches, Supercomputers, and other related devices
	METEORWAVE-3000		3.4	0.0039	190°C	390°C	2.10%	> 120min	0.07%	4.4	Core Routers, High-Speed Switches, Supercomputers, and other related devices
SY	Synamic8GN	> 25 GHz	3.28	0.0019	190°C	430°C	2.20%	> 120min	0.10%	4.6	Ultra-High-Speed Network Equipment: Servers, Switches, Storage, Routers, High-Performance Computing, High-Frequency Test Instruments, and Optical Communication Products
TUC	TU-933 ThunderClad 3		3.4	0.0025	200°C	390°C	2.70%	> 60min	0.06%	7.0	Backplanes, High-Performance Computing, Line Cards, Storage, Servers, Telecommunications, Base Stations, and Office Routers
ITEQ	IT-988GSETC		3.21	0.0015	175°C	400°C	2.71%	> 60min	0.15%	6.8	High-Speed Servers, Switches and Base Station Backplanes, Line Cards, High-Performance Computing, Office Routers, and other related devices
ISOLA	Tachyon 100G		3.02	0.0021	215°C	360°C	2.50%	> 60min	0.10%	5.4	Backplanes, Supercomputers, Routers, Servers, Test & Measurement Equipment, Telecommunications, Antennas, and other related devices
Panasonic	M7 (R5785N)		3.31	0.0023	200°C	400°C	/	> 120min	0.14%	7.6	ICT Infrastructure Equipment, Supercomputers, Routers, Servers, Test & Measurement Equipment, Telecommunications, Antennas, and other related devices
AGC	METEORWAVE-4000		3.3	0.0024	190°C	390°C	2.60%	> 120min	0.08%	4.4	Automotive Radar, High-Speed Switches, Supercomputers, Telecommunications, and other related applications