

MTBF Reliability Report

SQFlash 840 2.5" SSD

(3D TLC BiCS5)

Reliability Prediction	
Operating Temperature	30°C
Failure Rate (FIT)	731.270
MTBF (hrs)	1,367,483 hr

Product Information

Model: SQF-S25 840 (3D TLC BiCS5)

Prediction Method

Analysis Software: [Relex7.3](#)

Analysis Method: [Telcordia SR-332, Reliability Prediction of Electronic Equipment.](#)

Parts Coverage

Product	Advantech PN
SQF 2.5 SATA SSD 840-D 1920G 3D TLC (0~70°C)	SQF-S25V8-1K9GDSCC
SQF 2.5 SATA SSD 840-D 3840G 3D TLC (0~70°C)	SQF-S25V8-3K8GDSCC
SQF 2.5 SATA SSD 840-D 7680G 3D TLC (0~70°C)	SQF-S25VF-7K6GDSCC
SQF 2.5 SATA SSD 840-D 1920G 3D TLC (-40~85°C)	SQF-S25V8-1K9GDSCE
SQF 2.5 SATA SSD 840-D 3840G 3D TLC (-40~85°C)	SQF-S25V8-3K8GDSCE
SQF 2.5 SATA SSD 840-D 7680G 3D TLC (-40~85°C)	SQF-S25VF-7K6GDSCE
SQF 2.5 SATA SSD 840-D 480G 3D sTLC (0~70°C)	SQF-S25Z8-480GDSCC
SQF 2.5 SATA SSD 840-D 960G 3D sTLC (0~70°C)	SQF-S25Z8-960GDSCC
SQF 2.5 SATA SSD 840-D 1920G 3D sTLC (0~70°C)	SQF-S25ZF-1K9GDSCC
SQF 2.5 SATA SSD 840-D 480G 3D sTLC (-40~85°C)	SQF-S25Z8-480GDSCE
SQF 2.5 SATA SSD 840-D 960G 3D sTLC (-40~85°C)	SQF-S25Z8-960GDSCE
SQF 2.5 SATA SSD 840-D 1920G 3D sTLC (-40~85°C)	SQF-S25ZF-1K9GDSCE

Part Number	Reference Des Date	Environment	Temperature	Description
SQF-S25VF-7K6GDSCC	Mar. 29, 2022	GB, GC - Ground Benign, Controlled	30°C	Top-level assembly
	Time	Failure Rate	MTBF	
	02:35 PM	731.270	1,367,483	

Assembly Name	Part Number	Ref Des	Qty	Failure Rate	MTBF
SQF-S25VF-7K6GDSCC	SQF-S25VF-7K6GDSCC		1.00	731.270	1,367,483
			1.00	731.270	1,367,483
Part Number	Category	Ref Des	Failure Rate, Unit	Quantity	Failure Rate
30-POUA0HP316	Integrated Circuit		14.200675	16.00	227.210804
22-3112BB127E	Integrated Circuit		44.081868	1.00	44.081868
00-00S0000000	Resistor		0.416183	7.00	2.913280
00-00S0000009	Resistor		0.416183	4.00	1.664731
00-00S0000012	Resistor		0.416183	3.00	1.248548
00-00S0000025	Resistor		0.416183	2.00	0.832366
00-00S0000026	Resistor		0.416183	1.00	0.416183
00-00S0000029	Resistor		0.416183	1.00	0.416183
00-00S0000044	Resistor		0.416183	2.00	0.832366
00-00S0000045	Resistor		0.416183	5.00	2.080914
00-00S0000059	Resistor		0.416183	2.00	0.832366
00-00S0000060	Resistor		0.416183	1.00	0.416183
00-00S0000064	Resistor		0.416183	1.00	0.416183
00-00S0000076	Resistor		0.416183	6.00	2.497097
00-00S0000173	Resistor		0.416183	1.00	0.416183
00-00S0000192	Resistor		0.416183	1.00	0.416183
00-00S0000194	Resistor		0.416183	2.00	0.832366
00-00S0000195	Resistor		0.416183	2.00	0.832366
00-00S0000196	Resistor		0.416183	1.00	0.416183
00-00S0000197	Resistor		0.416183	4.00	1.664731
00-00S0000198	Resistor		0.416183	1.00	0.416183
00-00S0000216	Resistor		0.416183	2.00	0.832366
00-00S0000234	Resistor		0.416183	2.00	0.832366
00-00S0000295	Resistor		0.416183	1.00	0.416183
00-01S0000004	Resistor		0.416183	5.00	2.080914
00-10S0000004	Capacitor		0.940672	1.00	0.940672
00-10S0000049	Capacitor		0.940672	1.00	0.940672
00-10S0000054	Capacitor		0.940672	1.00	0.940672
00-10S0000056	Capacitor		0.940672	29.00	27.279477
00-10S0000062	Capacitor		0.940672	9.00	8.466045
00-10S0000082	Capacitor		0.940672	59.00	55.499626
00-10S0000089	Capacitor		0.940672	24.00	22.576119
00-10S0000097	Capacitor		0.940672	2.00	1.881343
00-10S0000103	Capacitor		0.940672	2.00	1.881343
00-10S0000111	Capacitor		0.940672	2.00	1.881343
00-10S0000112	Capacitor		0.940672	4.00	3.762686
00-10S0000136	Capacitor		0.940672	1.00	0.940672
00-20S0000021	Inductor		0.416183	2.00	0.832366
00-30S0000084	Inductor		0.416183	4.00	1.664731
00-30S0000085	Inductor		0.416183	1.00	0.416183
00-30S0000086	Inductor		0.416183	1.00	0.416183
00-40S0000041	Semiconductor		4.584359	1.00	4.584359
01-00S0000062	Miscellaneous		25.000000	1.00	25.000000
02-R0S0000001	Semiconductor		4.584359	2.00	9.168718
04-01S0000017	Connection		0.000000	1.00	0.000000
06-00S0000121	Integrated Circuit		42.534577	1.00	42.534577
06-00S0000138	Integrated Circuit		21.135534	1.00	21.135534
06-00S0000195	Integrated Circuit		42.534577	1.00	42.534577
06-00S0000200	Integrated Circuit		42.534577	1.00	42.534577
06-03S0000293	Integrated Circuit		14.200675	4.00	56.802701
06-04S0000011	Integrated Circuit		14.200675	1.00	14.200675
07-00S0002004	Integrated Circuit		42.534577	1.00	42.534577
18-A023000013	Connection		4.904495	1.00	4.904495