

MTBF Reliability Report

SQFlash 640 2.5" SSD

Reliability Prediction	
Operating Temperature	30°C
Failure Rate (FIT)	491.464137
MTBF (hrs)	2,034,734 hrs

Product Information

Model: SQF-S25 640

Prediction Method

Analysis Software: [Relex7.3](#)

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

Parts Coverage

Product	Advantech PN
SQF 2.5" SSD 640 8G SLC (0~70°C)	SQF-S25S2-8G-SBC
SQF 2.5" SSD 640 16G SLC (0~70°C)	SQF-S25S4-16G-SBC
SQF 2.5" SSD 640 32G SLC (0~70°C)	SQF-S25S4-32G-SBC
SQF 2.5" SSD 640 64G SLC (0~70°C)	SQF-S25S4-64G-SBC
SQF 2.5" SSD 640 128G SLC (0~70°C)	SQF-S25S4-128G-SBC
SQF 2.5" SSD 640 8G SLC (-40~85°C)	SQF-S25S2-8G-SBE
SQF 2.5" SSD 640 16G SLC (-40~85°C)	SQF-S25S4-16G-SBE
SQF 2.5" SSD 640 32G SLC (-40~85°C)	SQF-S25S4-32G-SBE
SQF 2.5" SSD 640 64G SLC (-40~85°C)	SQF-S25S4-64G-SBE
SQF 2.5" SSD 640 128G SLC (-40~85°C)	SQF-S25S4-128G-SBE
SQF 2.5" SSD 640 8G UMLC (0~70°C)	SQF-S25U1-8G-SBC
SQF 2.5" SSD 640 16G UMLC (0~70°C)	SQF-S25U2-16G-SBC
SQF 2.5" SSD 640 32G UMLC (0~70°C)	SQF-S25U2-32G-SBC
SQF 2.5" SSD 640 64G UMLC (0~70°C)	SQF-S25U4-64G-SBC
SQF 2.5" SSD 640 128G UMLC (0~70°C)	SQF-S25U4-128G-SBC
SQF 2.5" SSD 640 256G UMLC (0~70°C)	SQF-S25U4-256G-SBC
SQF 2.5" SSD 640 512G UMLC (0~70°C)	SQF-S25U4-512G-SBC
SQF 2.5" SSD 640 8G UMLC (-40~85°C)	SQF-S25U1-8G-SBE
SQF 2.5" SSD 640 16G UMLC (-40~85°C)	SQF-S25U2-16G-SBE
SQF 2.5" SSD 640 32G UMLC (-40~85°C)	SQF-S25U2-32G-SBE
SQF 2.5" SSD 640 64G UMLC (-40~85°C)	SQF-S25U4-64G-SBE
SQF 2.5" SSD 640 128G UMLC (-40~85°C)	SQF-S25U4-128G-SBE
SQF 2.5" SSD 640 256G UMLC (-40~85°C)	SQF-S25U4-256G-SBE
SQF 2.5" SSD 640 512G UMLC (-40~85°C)	SQF-S25U4-512G-SBE
SQF 2.5" SSD 640 16G MLC (0~70°C)	SQF-S25M1-16G-SBC
SQF 2.5" SSD 640 32G MLC (0~70°C)	SQF-S25M2-32G-SBC
SQF 2.5" SSD 640 64G MLC 2CH (0~70°C)	SQF-S25M2-64G-SBC
SQF 2.5" SSD 640 64G MLC 4CH (0~70°C)	SQF-S25M4-64G-SBC
SQF 2.5" SSD 640 128G MLC (0~70°C)	SQF-S25M4-128G-SBC
SQF 2.5" SSD 640 256G MLC (0~70°C)	SQF-S25M4-256G-SBC
SQF 2.5" SSD 640 512G MLC (0~70°C)	SQF-S25M4-512G-SBC
SQF 2.5" SSD 640 1T MLC (0~70°C)	SQF-S25M4-1T-SBC
SQF 2.5" SSD 640 16G MLC (-40~85°C)	SQF-S25M1-16G-SBE
SQF 2.5" SSD 640 32G MLC (-40~85°C)	SQF-S25M2-32G-SBE
SQF 2.5" SSD 640 64G MLC 2CH (-40~85°C)	SQF-S25M2-64G-SBE
SQF 2.5" SSD 640 64G MLC 4CH (-40~85°C)	SQF-S25M4-64G-SBE
SQF 2.5" SSD 640 128G MLC (-40~85°C)	SQF-S25M4-128G-SBE
SQF 2.5" SSD 640 256G MLC (-40~85°C)	SQF-S25M4-256G-SBE
SQF 2.5" SSD 640 512G MLC (-40~85°C)	SQF-S25M4-512G-SBE

SQF 2.5" SSD 640 32G 3D NAND (BiCS3) (0~70°C)	SQF-S25V1-32G-SBC
SQF 2.5" SSD 640 64G 3D NAND (BiCS3) (0~70°C)	SQF-S25V2-64G-SBC
SQF 2.5" SSD 640 128G 3D NAND (BiCS3) (0~70°C)	SQF-S25V2-128G-SBC
SQF 2.5" SSD 640 256G 3D NAND (BiCS3) (0~70°C)	SQF-S25V4-256G-SBC
SQF 2.5" SSD 640 512G 3D NAND (BiCS3) (0~70°C)	SQF-S25V4-512G-SBC
SQF 2.5" SSD 640 1T 3D NAND (BiCS3) (0~70°C)	SQF-S25V4-1T-SBC
SQF 2.5" SSD 640 32G 3D NAND (BiCS3) (-40~85°C)	SQF-S25V1-32G-SBE
SQF 2.5" SSD 640 64G 3D NAND (BiCS3) (-40~85°C)	SQF-S25V2-64G-SBE
SQF 2.5" SSD 640 128G 3D NAND (BiCS3) (-40~85°C)	SQF-S25V2-128G-SBE
SQF 2.5" SSD 640 256G 3D NAND (BiCS3) (-40~85°C)	SQF-S25V4-256G-SBE
SQF 2.5" SSD 640 512G 3D NAND (BiCS3) (-40~85°C)	SQF-S25V4-512G-SBE
SQF 2.5" SSD 640 1T 3D NAND (BiCS3) (-40~85°C)	SQF-S25V4-1T-SBE

Part Number	Reference Des Date	Environment	Temperature	Description
SQF-SMSU4-128G-SBE	Jun., 23, 2017	GB, GC-Ground Benign, Controlled	30.00 °C	Top-level assembly
	Time	Failure Rate	MTBF	
	09:52 PM	491.464137	2,034,734 hrs	

Assembly Name	Part Number	Ref Des	Qty	Failure Rate	MTBF
SQF-S25M4-128G-SBC	SQF-S25M4-128G-SBC		1.00	491.464137	2,034,734
			1.00	491.464137	2,034,734
Part Number	Category	Ref Des	Failure Rate, Unit	Quantity	Failure Rate
00-00S0000000	Resistor		0.50000	10.00	5.000000
00-00S0000013	Resistor		0.50000	1.00	0.500000
00-00S0000029	Resistor		0.50000	1.00	0.500000
00-00S0000044	Resistor		0.50000	1.00	0.500000
00-00S0000045	Resistor		0.50000	2.00	1.000000
00-00S0000059	Resistor		0.50000	1.00	0.500000
00-00S0000060	Resistor		0.50000	1.00	0.500000
00-00S0000061	Resistor		0.50000	1.00	0.500000
00-00S0000064	Resistor		0.50000	3.00	1.500000
00-00S0000066	Resistor		0.50000	1.00	0.500000
00-00S0000076	Resistor		0.50000	4.00	2.000000
00-00S0000089	Resistor		0.50000	1.00	0.500000
00-00S0000174	Resistor		0.50000	1.00	0.500000
00-00S0000182	Resistor		0.50000	1.00	0.500000
00-00S0000188	Resistor		0.50000	1.00	0.500000
00-00S0000202	Resistor		0.50000	1.00	0.500000
00-00S0000228	Resistor		0.50000	1.00	0.500000
00-00S0000239	Resistor		0.50000	1.00	0.500000
00-00S0000256	Resistor		0.50000	1.00	0.500000
00-10S0000004	Capacitor		1.00000	2.00	2.000000
00-10S0000006	Capacitor		1.00000	1.00	1.000000
00-10S0000049	Capacitor		1.00000	7.00	7.000000
00-10S0000050	Capacitor		1.00000	3.00	3.000000
00-10S0000052	Capacitor		1.00000	5.00	5.000000
00-10S0000054	Capacitor		1.00000	1.00	1.000000
00-10S0000056	Capacitor		1.00000	12.00	12.000000
00-10S0000058	Capacitor		1.00000	2.00	2.000000
00-10S0000061	Capacitor		1.00000	3.00	3.000000
00-10S0000062	Capacitor		1.00000	3.00	3.000000
00-10S0000063	Capacitor		1.00000	12.00	12.000000
00-10S0000066	Capacitor		1.00000	2.00	2.000000
00-10S0000080	Capacitor		1.00000	38.00	38.000000
00-10S0000082	Capacitor		1.00000	1.00	1.000000
00-10S0000103	Capacitor		1.00000	18.00	18.000000
00-20S0000005	Inductor		0.50000	1.00	1.000000
00-30S0000034	Inductor		0.50000	4.00	2.000000
00-30S0000064	Inductor		0.50000	1.00	0.500000
00-40S0000027	Semiconductor		6.00000	2.00	12.000000
01-00S0000049	Miscellaneous		25.00000	1.00	25.000000
02-R0S0000001	Semiconductor		60.00000	1.00	60.000000
04-01S0000017	Connection		0.00000	1.00	0.000000
06-00S0000159	Integrated Circuit		84.379324	1.00	84.379324
06-04S0000011	Integrated Circuit		21.789271	1.00	21.789271
22-3111CC113D	Integrated Circuit		67.638458	1.00	67.638458
18-A084000004	Connection		8.000000	1.00	8.000000
30-T0LA0HP067	Integrated Circuit		21.789271	1.00	21.789271