

MTBF Reliability Report

SQFlash 640 mSATA SSD

Reliability Prediction	
Operating Temperature	30°C
Failure Rate (FIT)	439.59924
MTBF (hrs)	2,274,799 hrs

Product Information

Model: SQF-SMS 640

Prediction Method

Analysis Software: [Relex7.3](#)

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

Parts Coverage

Product	Advantech PN
SQF mSATA 640 8G SLC (0~70°C)	SQF-SMSS2-8G-SBC
SQF mSATA 640 16G SLC (0~70°C)	SQF-SMSS4-16G-SBC
SQF mSATA 640 32G SLC (0~70°C)	SQF-SMSS4-32G-SBC
SQF mSATA 640 64G SLC (0~70°C)	SQF-SMSS4-64G-SBC
SQF mSATA 640 128G SLC (0~70°C)	SQF-SMSS4-128G-SBC
SQF mSATA 640 8G SLC (-40~85°C)	SQF-SMSS2-8G-SBE
SQF mSATA 640 16G SLC (-40~85°C)	SQF-SMSS4-16G-SBE
SQF mSATA 640 32G SLC (-40~85°C)	SQF-SMSS4-32G-SBE
SQF mSATA 640 64G SLC (-40~85°C)	SQF-SMSS4-64G-SBE
SQF mSATA 640 128G SLC (-40~85°C)	SQF-SMSS4-128G-SBE
SQF mSATA 640 8G UMLC (0~70°C)	SQF-SMSU1-8G-SBC
SQF mSATA 640 16G UMLC (0~70°C)	SQF-SMSU1-16G-SBC
SQF mSATA 640 16G UMLC (0~70°C)	SQF-SMSU2-16G-SBC
SQF mSATA 640 32G UMLC (0~70°C)	SQF-SMSU2-32G-SBC
SQF mSATA 640 64G UMLC (0~70°C)	SQF-SMSU4-64G-SBC
SQF mSATA 640 128G UMLC (0~70°C)	SQF-SMSU4-128G-SBC
SQF mSATA 640 256G UMLC (0~70°C)	SQF-SMSU4-256G-SBC
SQF mSATA 640 8G UMLC (-40~85°C)	SQF-SMSU1-8G-SBE
SQF mSATA 640 16G UMLC (-40~85°C)	SQF-SMSU1-16G-SBE
SQF mSATA 640 16G UMLC (-40~85°C)	SQF-SMSU2-16G-SBE
SQF mSATA 640 32G UMLC (-40~85°C)	SQF-SMSU2-32G-SBE
SQF mSATA 640 64G UMLC (-40~85°C)	SQF-SMSU4-64G-SBE
SQF mSATA 640 128G UMLC (-40~85°C)	SQF-SMSU4-128G-SBE
SQF mSATA 640 256G UMLC (-40~85°C)	SQF-SMSU4-256G-SBE
SQF mSATA 640 16G MLC (0~70°C)	SQF-SMSM1-16G-SBC
SQF mSATA 640 32G MLC (0~70°C)	SQF-SMSM1-32G-SBC
SQF mSATA 640 32G MLC (0~70°C)	SQF-SMSM2-32G-SBC
SQF mSATA 640 64G MLC (0~70°C)	SQF-SMSM2-64G-SBC
SQF mSATA 640 128G MLC (0~70°C)	SQF-SMSM4-128G-SBC
SQF mSATA 640 256G MLC (0~70°C)	SQF-SMSM4-256G-SBC
SQF mSATA 640 512G MLC (0~70°C)	SQF-SMSM4-512G-SBC
SQF mSATA 640 1T MLC (0~70°C)	SQF-SMSM4-1T-SBC
SQF mSATA 640 16G MLC (-40~85°C)	SQF-SMSM1-16G-SBE
SQF mSATA 640 32G MLC (-40~85°C)	SQF-SMSM1-32G-SBE
SQF mSATA 640 32G MLC (-40~85°C)	SQF-SMSM2-32G-SBE
SQF mSATA 640 64G MLC (-40~85°C)	SQF-SMSM2-64G-SBE
SQF mSATA 640 128G MLC (-40~85°C)	SQF-SMSM4-128G-SBE
SQF mSATA 640 256G MLC (-40~85°C)	SQF-SMSM4-256G-SBE
SQF mSATA 640 512G MLC (-40~85°C)	SQF-SMSM4-512G-SBE
SQF mSATA 640 1T MLC (-40~85°C)	SQF-SMSM4-1T-SBE

Part Number	Reference Des Date	Environment	Temperature	Description
SQF-SMSU4-128G-SBE	Feb., 10, 2017	GB, GC-Ground Benign, Controlled	30.00 °C	Top-level assembly
	Time	Failure Rate	MTBF	
	17:36 PM	439.59924	2,274,799 hrs	

Assembly Name	Part Number	Ref Des	Qty	Failure Rate	MTBF
SQF-SMSU4-128G-SBE	SQF-SMSU4-128G-SBE		1.00	439.59924	2,274,799
			1.00	439.59924	2,274,799
Part Number	Category	Ref Des	Failure Rate, Unit	Quantity	Failure Rate
00-00S0000000	Resistor		0.50000	8.00	4.000000
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
00-00S0000061	Resistor		0.50000	2.00	1.000000
00-00S0000064	Resistor		0.50000	1.00	0.500000
00-00S0000089	Resistor		0.50000	1.00	0.500000
00-00S0000173	Resistor		0.50000	1.00	0.500000
00-00S0000184	Resistor		0.50000	1.00	0.500000
00-00S0000190	Resistor		0.50000	1.00	0.500000
00-00S0000195	Resistor		0.50000	1.00	0.500000
00-00S0000202	Resistor		0.50000	1.00	0.500000
00-00S0000221	Resistor		0.50000	1.00	0.500000
00-00S0000228	Resistor		0.50000	1.00	0.500000
00-00S0000232	Resistor		0.50000	1.00	0.500000
00-00S0000256	Resistor		0.50000	1.00	0.500000
00-10S0000004	Capacitor		1.00000	1.00	1.000000
00-10S0000006	Capacitor		1.00000	1.00	1.000000
00-10S0000007	Capacitor		1.00000	1.00	1.000000
00-10S0000049	Capacitor		1.00000	2.00	2.000000
00-10S0000050	Capacitor		1.00000	6.00	6.000000
00-10S0000054	Capacitor		1.00000	11.00	11.000000
00-10S0000056	Capacitor		1.00000	1.00	1.000000
00-10S0000058	Capacitor		1.00000	2.00	2.000000
00-10S0000061	Capacitor		1.00000	3.00	3.000000
00-10S0000062	Capacitor		1.00000	10.00	10.000000
00-10S0000063	Capacitor		1.00000	2.00	2.000000
00-10S0000066	Capacitor		1.00000	29.00	29.000000
00-10S0000080	Capacitor		1.00000	1.00	1.000000
00-10S0000082	Capacitor		1.00000	39.00	39.000000
00-10S0000089	Capacitor		1.00000	6.00	6.000000
00-10S0000095	Capacitor		1.00000	4.00	4.000000
00-10S0000103	Capacitor		1.00000	1.00	1.000000
00-20S0000005	Inductor		0.50000	3.00	1.500000
00-30S0000034	Inductor		0.50000	1.00	0.500000
00-30S0000064	Inductor		0.50000	1.00	0.500000
00-40S0000027	Semiconductor		6.00000	1.00	6.000000
04-05S0000037	Connection		0.00000	1.00	0.000000
18-A011000050	Connection		8.00000	1.00	8.000000
19-0000000033	Other		0.00000	1.00	0.000000
22-3111CC113D	Integrated Circuit		82.94216	1.00	82.942156
30-T0LA0HP067	Integrated Circuit		21.78927	4.00	87.157084
02-R0S0000001	Semiconductor		60.00000	2.00	120.000000