

MTBF Reliability Report

SQFlash 640 M.2 2280

Reliability Prediction	
Operating Temperature	30°C
Failure Rate (FIT)	493.596324
MTBF (hrs)	2,025,946 hrs

Product Information

Model: SQF-SM8 640

Prediction Method

Analysis Software: [Relex7.3](#)

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

Parts Coverage

Product	Advantech PN
SQF M.2 2280 640 8G SLC (0~70°C)	SQF-SM8S1-8G-SBC
SQF M.2 2280 640 16G SLC (0~70°C)	SQF-SM8S1-16G-SBC
SQF M.2 2280 640 32G SLC (0~70°C)	SQF-SM8S2-32G-SBC
SQF M.2 2280 640 64G SLC (0~70°C)	SQF-SM8S4-64G-SBC
SQF M.2 2280 640 128G SLC (0~70°C)	SQF-SM8S4-128G-SBC
SQF M.2 2280 640 8G SLC (-40~85°C)	SQF-SM8S1-8G-SBE
SQF M.2 2280 640 16G SLC (-40~85°C)	SQF-SM8S1-16G-SBE
SQF M.2 2280 640 32G SLC (-40~85°C)	SQF-SM8S2-32G-SBE
SQF M.2 2280 640 64G SLC (-40~85°C)	SQF-SM8S4-64G-SBE
SQF M.2 2280 640 128G SLC (-40~85°C)	SQF-SM8S4-128G-SBE
SQF M.2 2280 640 8G UMLC (0~70°C)	SQF-SM8U1-8G-SBC
SQF M.2 2280 640 16G UMLC (0~70°C)	SQF-SM8U1-16G-SBC
SQF M.2 2280 640 32G UMLC (0~70°C)	SQF-SM8U2-32G-SBC
SQF M.2 2280 640 64G UMLC (0~70°C)	SQF-SM8U4-64G-SBC
SQF M.2 2280 640 128G UMLC (0~70°C)	SQF-SM8U4-128G-SBC
SQF M.2 2280 640 256G UMLC (0~70°C)	SQF-SM8U4-256G-SBC
SQF M.2 2280 640 512G UMLC (0~70°C)	SQF-SM8U4-512G-SBC
SQF M.2 2280 640 8G UMLC (-40~85°C)	SQF-SM8U1-8G-SBE
SQF M.2 2280 640 16G UMLC (-40~85°C)	SQF-SM8U1-16G-SBE
SQF M.2 2280 640 32G UMLC (-40~85°C)	SQF-SM8U2-32G-SBE
SQF M.2 2280 640 64G UMLC (-40~85°C)	SQF-SM8U4-64G-SBE
SQF M.2 2280 640 128G UMLC (-40~85°C)	SQF-SM8U4-128G-SBE
SQF M.2 2280 640 256G UMLC (-40~85°C)	SQF-SM8U4-256G-SBE
SQF M.2 2280 640 512G UMLC (-40~85°C)	SQF-SM8U4-512G-SBE
SQF M.2 2280 640 16G MLC (0~70°C)	SQF-SM8M1-16G-SBC
SQF M.2 2280 640 32G MLC (0~70°C)	SQF-SM8M1-32G-SBC
SQF M.2 2280 640 64G MLC (0~70°C)	SQF-SM8M2-64G-SBC
SQF M.2 2280 640 128G MLC (0~70°C)	SQF-SM8M4-128G-SBC
SQF M.2 2280 640 256G MLC (0~70°C)	SQF-SM8M4-256G-SBC
SQF M.2 2280 640 512G MLC (0~70°C)	SQF-SM8M4-512G-SBC
SQF M.2 2280 640 1T MLC (0~70°C)	SQF-SM8M4-1T-SBC
SQF M.2 2280 640 16G MLC (-40~85°C)	SQF-SM8M1-16G-SBE
SQF M.2 2280 640 32G MLC (-40~85°C)	SQF-SM8M1-32G-SBE
SQF M.2 2280 640 64G MLC (-40~85°C)	SQF-SM8M2-64G-SBE
SQF M.2 2280 640 128G MLC (-40~85°C)	SQF-SM8M4-128G-SBE
SQF M.2 2280 640 256G MLC (-40~85°C)	SQF-SM8M4-256G-SBE
SQF M.2 2280 640 512G MLC (-40~85°C)	SQF-SM8M4-512G-SBE
SQF M.2 2280 640 1T MLC (-40~85°C)	SQF-SM8M4-1T-SBE

Part Number	Reference Des Date	Environment	Temperature	Description
SQF-SM8M2-64G-SBC	Jun., 24, 2017	GB, GC-Ground Benign, Controlled	30.00 °C	Top-level assembly
	Time	Failure Rate	MTBF	
	02:05 AM	493.596324	2,025,946 hrs	

Assembly Name	Part Number	Ref Des	Qty	Failure Rate	MTBF
SQF-SM8M2-64G-SBC	SQF-SM8M2-64G-SBC		1.00	493.596324	2,025,946
			1.00	493.596324	2,025,946
Part Number	Category	Ref Des	Failure Rate, Unit	Quantity	Failure Rate
00-00S0000000	Resistor		0.500000	4.00	2.000000
00-00S0000029	Resistor		0.500000	1.00	0.500000
00-00S0000044	Resistor		0.500000	1.00	0.500000
00-00S0000045	Resistor		0.500000	2.00	1.000000
00-00S0000059	Resistor		0.500000	2.00	1.000000
00-00S0000061	Resistor		0.500000	1.00	0.500000
00-00S0000064	Resistor		0.500000	3.00	1.500000
00-00S0000089	Resistor		0.500000	1.00	0.500000
00-00S0000173	Resistor		0.500000	4.00	2.000000
00-00S0000182	Resistor		0.500000	1.00	0.500000
00-00S0000184	Resistor		0.500000	1.00	0.500000
00-00S0000202	Resistor		0.500000	1.00	0.500000
00-00S0000228	Resistor		0.500000	1.00	0.500000
00-00S0000232	Resistor		0.500000	1.00	0.500000
00-00S0000256	Resistor		0.500000	1.00	0.500000
00-10S0000004	Capacitor		1.000000	1.00	1.000000
00-10S0000006	Capacitor		1.000000	2.00	2.000000
00-10S0000007	Capacitor		1.000000	1.00	1.000000
00-10S0000049	Capacitor		1.000000	2.00	2.000000
00-10S0000050	Capacitor		1.000000	6.00	6.000000
00-10S0000054	Capacitor		1.000000	7.00	7.000000
00-10S0000056	Capacitor		1.000000	1.00	1.000000
00-10S0000058	Capacitor		1.000000	2.00	2.000000
00-10S0000061	Capacitor		1.000000	3.00	3.000000
00-10S0000062	Capacitor		1.000000	14.00	14.000000
00-10S0000063	Capacitor		1.000000	2.00	2.000000
00-10S0000066	Capacitor		1.000000	1.00	1.000000
00-10S0000080	Capacitor		1.000000	1.00	1.000000
00-10S0000082	Capacitor		1.000000	71.00	71.000000
00-10S0000089	Capacitor		1.000000	5.00	5.000000
00-10S0000095	Capacitor		1.000000	4.00	4.000000
00-10S0000103	Capacitor		1.000000	1.00	1.000000
00-20S0000005	Inductor		0.500000	3.00	1.500000
00-30S0000034	Inductor		0.500000	1.00	0.500000
00-30S0000064	Inductor		0.500000	1.00	0.500000
00-40S0000027	Semiconductor		6.000000	1.00	6.000000
01-00S0000049	Miscellaneous		25.000000	1.00	25.000000
02-R0S0000001	Semiconductor		60.000000	2.00	120.000000
04-05S0000037	Connection		0.000000	1.00	0.000000
06-00S0000159	Integrated Circuit		84.379324	1.00	84.379324
19-0000000033	Other		0.000000	1.00	0.000000
22-3111CC113D	Integrated Circuit		67.638458	1.00	67.638458
18-A0S9000016	Connection		8.000000	1.00	8.000000
30-TOLA0HP067	Integrated Circuit		21.789271	2.00	43.578542