Artikelnummer	**8000-698KS-0000000**
Artikelbezeichnung	**MVP12V-FS9Z-SI**

				Geprüft:	Thilo Schumm
				Freigegeben:	Thilo Schumm
				Datum	
				Sprache:	DE
				Original:	DE
				Papierformat:	A4
a	Erstausgabe	2019-02-26	Georg Sturm		
Index	Änderungen	Datum	Name Ersteller	Dateiname:	8000-698KS-0000000_de_a

1 Beschreibung

Passiver Signalverteiler im Cube67 Gehäuse.

- 10 Steckplätzen
  - 9x M12-Buchsen 8-polig
  - 1x M12-Stecker 5-polig
- Schutzart IP67

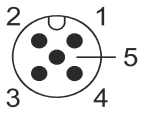
Bestimmungsgemäße Verwendung als Signalverteiler.
Steckverteiler ohne Schaltleistung.

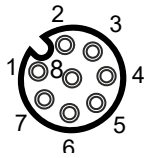
2 Elektrische Daten

Modulversorgung

Parameter	Bedingung	Wert
Betriebsspannung	SELF / PELV	24 V ⎓
Betriebsspannungsbereich		18 ... 30 V ⎓
max. Summenstrom IN		2 A
max. Ausgangsstrom pro Versorgungspin	Haltestrom bei 20 °C	0,75 A
	Auslösestrom bei 20 °C	1,5 A
Durchgangswiderstand pro Kontakt		≤5 mΩ

Kontaktbelegung

M12-Stecker 5-polig	M12-Stecker 5-polig
Male	**IN:**
	Pin 1: UB1
	Pin 2: UB2
	Pin 3: GND
	Pin 4: S1 IN
	Pin 5: S2 IN
IN	

M12-Buchse 8-polig	M12- Buchse 8-polig		
Female	**Steckplatz 1 ... 4:**	**Steckplatz 5 ... 8:**	**OUT:**
	Pin 1: N.C.	Pin 1: N.C.	Pin 1: UB1
	Pin 2: UB1	Pin 2: UB2	Pin 2: UB2
	Pin 3: GND	Pin 3: GND	Pin 3: GND
	Pin 4: S1 IN	Pin 4: S1 IN	Pin 4: N.C.
	Pin 5: S2 IN	Pin 5: S2 IN	Pin 5: N.C.
	Pin 6: N.C.	Pin 6: N.C.	Pin 6: N.C.
	Pin 7: S2 OUT	Pin 7: S2 OUT	Pin 7: S2 OUT
	Pin 8: S1 OUT	Pin 8: S1 OUT	Pin 8: S1 OUT

LED

Parameter	Bedingung	Wert
Betriebsspannungsanzeige UB1 Port 1...4		LED grün
Betriebsspannungsanzeige UB2 Port 5...8		LED gelb

3 Umgebungseigenschaften

Klimatisch

Parameter	Bedingung	Wert
Betriebstemperatur		-25 °C ... +65 °C
Lagertemperatur		-25 °C ... +85 °C
Schutzart	EN 60529	IP67

Mechanisch

Parameter	Bedingung	Wert
Schwingprüfung	EN 60068 Part 2-6	5 ... 150 Hz; 1 g
Schockprüfung	EN 60068 Part 2-27	15 g, Dauer 11 ms

Beim Einsatz aggressiver Medien ist die Materialbeständigkeit applikationsbezogen zu überprüfen. Die Oberflächenveredelung kann verfahrensbedingte Glanzgradunterschiede aufweisen, die die Funktion oder Beständigkeit nicht beeinträchtigen.

Aufgrund der klimatischen Temperaturschwankungen und Erschütterungen sind in regelmäßigen Abständen Kontrollen der Anschlussverschraubungen auf festen Sitz durchzuführen. Und gegebenenfalls die Verschraubungen erneut mit dem angegebenen Anzugsdrehmoment anzuziehen.

4 Schutz

Geräteschutz

Parameter	Bedingung	Wert
Strombegrenzung Sensorversorgung	Temperatur 20 °C	Haltestrom 0,75 A Auslösestrom 1,5 A
Derating		siehe Anhang.

5 Mechanische Daten

Montagedaten

Parameter	Bedingung	Wert
Gewicht		210 g
Abmessungen (H x B x T)		126 x 50 x 34,5 mm
Einbaumaß in mm		75 ±0.5 mm
Aufstellhöhe		<2000 m

6 Materialien

Materialien

Parameter	Wert
Gehäuse	PBT UL 94V-0, schwarz
Vergussmasse	2-Komponenten Vergussmasse nach UL 94V-0
Kontaktträger	PA UL 94V-0, schwarz
Kontakt	Kunststoff
O-Ring	Silikon blau

7 Sonstiges

Parameter	Bedingung	Wert
Isolierstoffgruppe	nach UL 94V-0	Gruppe III
Isolationswiderstand		$>10^9$ Ω
Angelehnt an Norm		EN 61984

8 Konformität, Zulassung, Zertifizierung

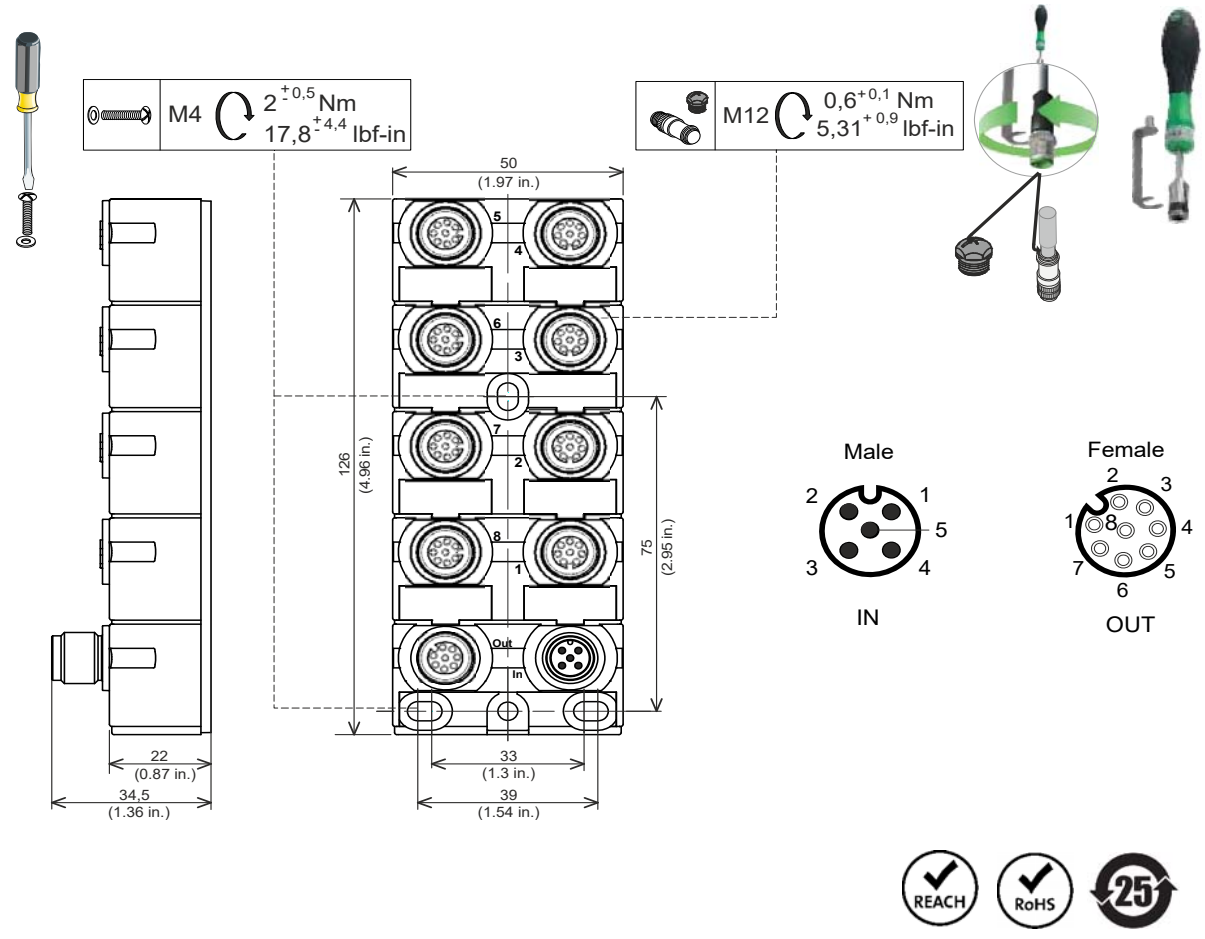
CE-Konformität

Parameter	Bedingung	Wert
RoHS Richtlinie	2011/65/EU	Konform

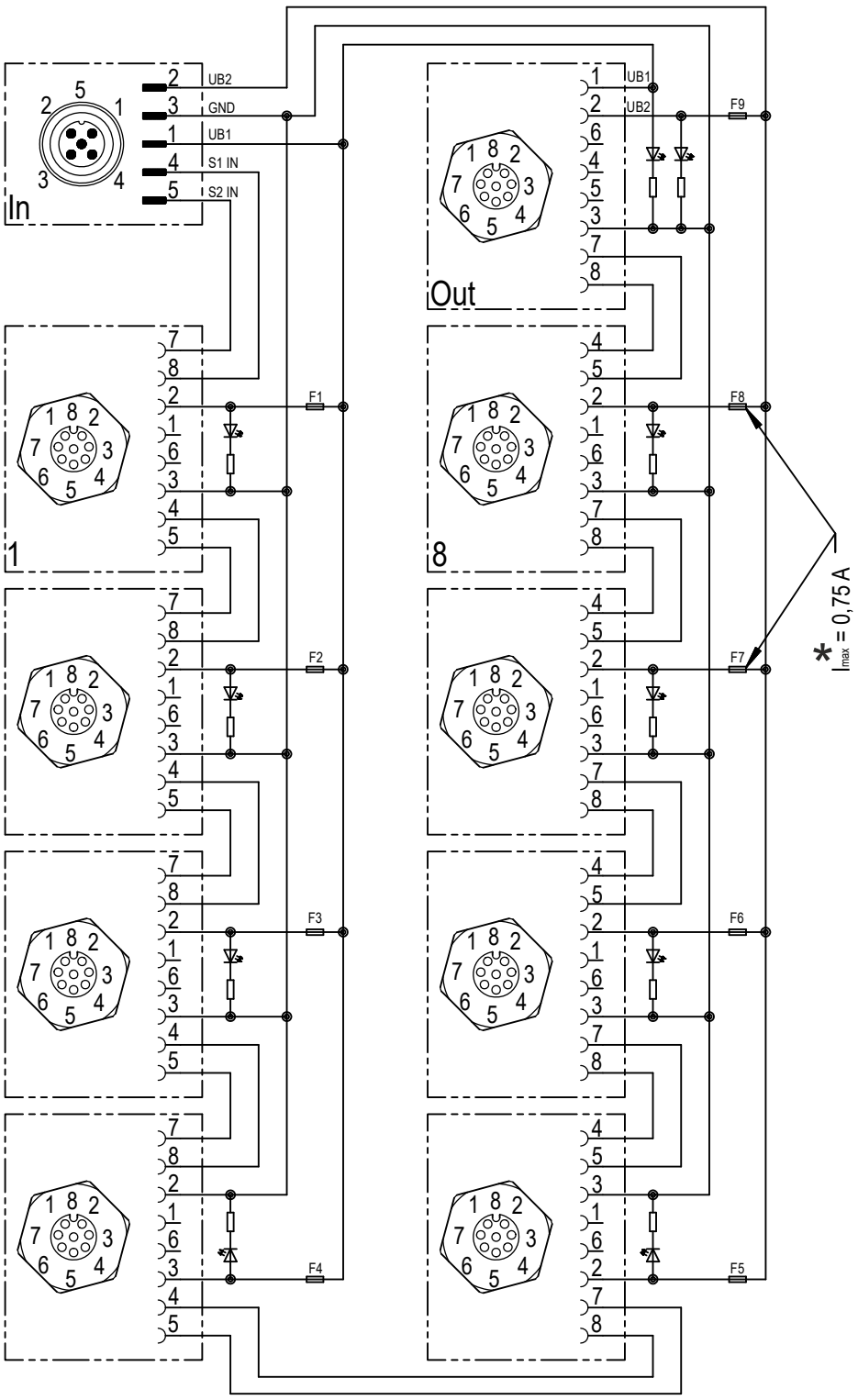
9 Zubehör

Zubehör		Art.No.
Blindkappe für Anschluss "IN"	Kunststoff 4 Stück	56951
Verschlussschraube für freie Steckplätze	Kunststoff	58627
Schutzleiter-Anschluss-Set	Kabelschuh 1,5 mm^2 … 2,5 mm^2, Schraube, U- Scheibe und Zahnscheibe	996064
Masseband	4 mm2, 100 mm^	400-71001-0410004
Kennzeichnungsschilder	2 Stämme = 10 Stück 20 mm x 8 mm	996067
Schnappfuß für Tragschiene	Mit Befestigungsschrauben, Ausführung Kunststoff	27905

10 Montagedaten/Abmessungen



11 Schaltplan



* Thermische, sich selbst zurücksetzende Sicherung

Nähere Angaben zur verwendeten Sicherung siehe nachfolgende Seiten.

12 Anhang

Anhang: Datenblatt verwendete Sicherung miniSMDC075

Table S2. Thermal Derating for Surface-mount Devices [Hold Current (A) at Ambient Temperature (°C)]

	Maximum Ambient Temperature											
Part Number	-40°C	-20°C	0°C	20°C	25°C	40°C	50°C	60°C	70°C	80°C	85°C	125°C
nanoSMD Size 3216 mm/1206 mils												
nanoSMDM012	0.19	0.17	0.15	0.13	0.125	0.11	0.10	0.09	0.08	0.07	0.07	—
nanoSMDM016	0.24	0.22	0.19	0.17	0.16	0.14	0.13	0.10	0.09	0.09	0.08	—
nanoSMDM050	0.76	0.68	0.59	0.52	0.50	0.44	0.40	0.35	0.32	0.28	0.26	—
nanoSMDM050F*	0.76	0.68	0.59	0.52	0.50	0.44	0.40	0.35	0.32	0.28	0.26	—
nanoSMDM075	1.11	1.00	0.85	0.78	0.75	0.67	0.61	0.52	0.50	0.44	0.42	—
nanoSMDM075F*	1.11	1.00	0.85	0.78	0.75	0.67	0.61	0.52	0.50	0.44	0.42	—
nanoSMDM100	1.49	1.34	1.15	1.04	1.00	0.89	0.81	0.70	0.66	0.58	0.55	—
nanoSMDM100F*	1.49	1.34	1.15	1.04	1.00	0.89	0.81	0.70	0.66	0.58	0.55	—
nanoSMDC150	2.20	1.99	1.77	1.55	1.50	1.34	1.23	1.10	1.01	0.90	0.84	
microSMD Size 3225 mm/1210 mils												
microSMD005	0.08	0.07	0.06	0.05	0.048	0.04	0.04	0.03	0.03	0.02	0.02	—
microSMD010	0.15	0.13	0.12	0.10	0.10	0.09	0.08	0.07	0.06	0.05	0.05	—
microSMD035	0.51	0.46	0.40	0.35	0.34	0.30	0.27	0.24	0.22	0.19	0.18	—
microSMD050	0.76	0.66	0.58	0.50	0.475	0.42	0.38	0.35	0.29	0.25	0.23	—
microSMD075	1.10	0.97	0.86	0.75	0.72	0.64	0.58	0.55	0.47	0.42	0.39	—
microSMD110	1.60	1.42	1.26	1.10	1.06	0.94	0.86	0.80	0.70	0.62	0.58	—
microSMD150	2.30	2.02	1.76	1.50	1.43	1.24	1.11	1.00	0.85	0.72	0.65	—
miniSMD Size 4532 mm/1812 mils												
miniSMDC014	0.23	0.20	0.17	0.14	0.13	0.11	0.10	0.09	0.07	0.06	0.05	—
miniSMDC020	0.30	0.27	0.23	0.20	0.19	0.17	0.15	0.13	0.12	0.10	0.09	—
miniSMDC050	0.59	0.57	0.55	0.50	0.48	0.45	0.43	0.35	0.30	0.25	0.23	—
miniSMDC075	1.10	0.99	0.87	0.75	0.72	0.63	0.57	0.49	0.45	0.39	0.35	—
miniSMDM075	1.11	1.00	0.81	0.78	0.75	0.67	0.61	0.49	0.47	0.45	0.42	—
miniSMDM075/24	1.11	1.00	0.85	0.78	0.75	0.67	0.61	0.52	0.50	0.44	0.42	—
miniSMDC110	1.60	1.45	1.28	1.10	1.065	0.92	0.83	0.71	0.66	0.57	0.52	—
miniSMDM110	1.58	1.43	1.20	1.14	1.10	0.98	0.92	0.77	0.73	0.70	0.66	—
miniSMDM110/16	1.61	1.46	1.25	1.14	1.10	0.98	0.90	0.78	0.74	0.66	0.62	—
miniSMDM110F/16*	1.61	1.46	1.25	1.14	1.10	0.98	0.90	0.78	0.74	0.66	0.62	—
miniSMDC125	2.00	1.69	1.47	1.25	1.17	1.03	0.92	0.90	0.69	0.58	0.53	—
miniSMDC150	2.30	2.05	1.77	1.50	1.44	1.23	1.09	0.95	0.82	0.68	0.61	—
miniSMDC160F*	2.50	2.19	1.89	1.60	1.53	1.31	1.16	1.10	0.94	0.79	0.70	—
miniSMDM160	2.32	2.10	1.80	1.66	1.60	1.43	1.32	1.14	1.10	0.99	0.93	—
miniSMDM160F*	2.32	2.10	1.80	1.66	1.60	1.43	1.32	1.14	1.10	0.99	0.93	—
miniSMDC200	2.60	2.44	2.22	2.00	1.96	1.78	1.67	1.50	1.45	1.34	1.29	—
miniSMDM200	2.88	2.61	2.25	2.07	2.0	1.80	1.66	1.45	1.39	1.26	1.19	—
miniSMDM200F*	2.88	2.61	2.25	2.07	2.0	1.80	1.66	1.45	1.39	1.26	1.19	—
miniSMDC260	3.40	3.16	2.88	2.60	2.54	2.32	2.18	2.00	1.90	1.76	1.69	—
miniSMDM260	3.70	3.36	2.90	2.68	2.6	2.35	2.18	1.90	1.84	1.67	1.59	—
miniSMDM260F*	3.70	3.36	2.90	2.68	2.6	2.35	2.18	1.90	1.84	1.67	1.59	—
miniSMDE Size 11550 mm/4420 mils												
miniSMDE190	3.16	2.74	2.20	1.90	1.74	1.48	1.27	1.10	0.80	0.50	0.35	—

*F: lead-free device

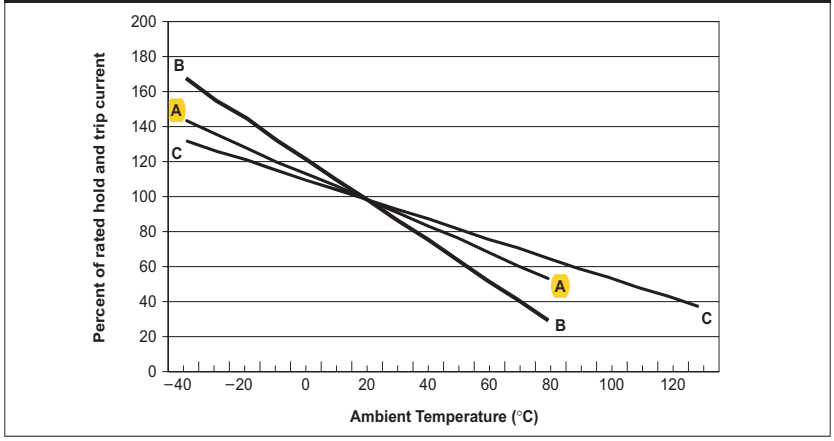
Thermal Derating Curves for Surface-mount Devices*

A = nanoSMD/microSMD/miniSMD & SMD

B = miniSMDE190

C = SMDH160

Figure S1. Thermal Derating Curve



*Refer to Telecom and Networking section for thermal derating of Telecom parts.

4

Table S3. Electrical Characteristics for Surface-mount Devices at 20°C

	Part Number		I_H (A)	I_T (A)	V_{MAX} (V_{DC})	I_{MAX} (A)	$P_{D\ TYP}$ (W)	Max. Time-to-Trip (A)	Max. Time-to-Trip (s)	R_{MIN} Ω	R_{TYP} Ω	$R_{1\ MAX}$ Ω	Figures for Dimensions
	nanoSMD Size 3216 mm/1206 mils												
New	nanoSMDM012	†	0.125	0.29	30	10	0.4	1.0	0.20	1.50	4.5	6.000	S2
New	nanoSMDM016	†	0.16	0.37	30	10	0.4	1.0	0.30	1.20	3.5	4.500	S2
	nanoSMDM050	†	0.50	1.00	6	40	0.4	8.0	0.10	0.15	0.400	0.700	S2
New	nanoSMDM050F*	†	0.50	1.00	6	40	0.4	8.0	0.10	0.15	0.400	0.700	S2
	nanoSMDM075	†	0.75	1.50	6	40	0.4	8.0	0.20	0.10	0.200	0.290	S2
New	nanoSMDM075F*	†	0.75	1.50	6	40	0.4	8.0	0.20	0.10	0.200	0.290	S2
	nanoSMDM100	†	1.00	1.80	6	40	0.4	8.0	0.30	0.06	0.150	0.210	S2
New	nanoSMDM100F*	†	1.00	1.80	6	40	0.4	8.0	0.30	0.06	0.150	0.210	S2
	nanoSMDC150	†	1.50	3.00	6	40	0.6	8.0	1.00	0.04	0.080	0.110	S3
	microSMD Size 3225 mm/1210 mils												
	microSMD005		0.05	0.15	30	10	0.6	0.25	1.5	3.60	25.00	50.000	S4
New	microSMD010		0.10	0.25	30	10	0.6	0.5	1.0	2.1	9.0	15.000	S3
	microSMD035		0.35	0.75	6	40	0.6	8.0	0.2	0.32	0.81	1.300	S3
	microSMD050		0.50	1.00	13.2	40	0.6	5.0	0.1	0.25	0.55	0.900	S3
	microSMD075		0.75	1.50	6	40	0.6	8.0	0.1	0.11	0.29	0.400	S3
	microSMD110		1.10	2.20	6	40	0.6	5.0	1.0	0.07	0.14	0.210	S3
	microSMD150		1.5	3.0	6	40	0.6	5.0	5.0	0.04	0.07	0.110	S3
	miniSMD Size 4532 mm/1812 mils												
	miniSMDC014		0.14	0.34	60	10	0.6	1.5	0.15	1.500	4.000	6.000	S3
	miniSMDC020		0.20	0.40	30	10	0.6	8.0	0.02	0.600	2.900	3.300	S3
	miniSMDC050		0.50	1.00	15	40	0.6	8.0	0.15	0.150	0.600	1.000	S3
	miniSMDC075		0.75	1.50	13.2	40	0.6	8.0	0.20	0.110	0.260	0.450	S3
	miniSMDM075	†	0.75	1.50	13.2	40	0.5	8.0	0.20	0.100	0.230	0.290	S2
	miniSMDM075/24	†	0.75	1.50	24	40	0.6	8.0	0.30	0.090	0.200	0.290	S5
	miniSMDC110		1.10	2.20	6	40	0.6	8.0	0.30	0.040	0.120	0.210	S3
	miniSMDM110	†	1.10	2.00	8	40	0.5	8.0	0.30	0.060	0.140	0.180	S2
	miniSMDM110/16	†	1.10	1.95	16	40	0.6	8.0	0.50	0.060	0.120	0.180	S5
New	miniSMDM110F/16*	†	1.10	1.95	16	40	0.6	8.0	0.50	0.060	0.120	0.180	S5
	miniSMDC125		1.25	2.50	6	40	0.6	8.0	0.40	0.050	0.090	0.140	S3
	miniSMDC150		1.50	3.00	6	40	0.6	8.0	0.50	0.040	0.070	0.110	S3
New	miniSMDC160F*		1.60	3.65	6	40	0.6	8.0	1.00	0.030	0.078	0.100	S3
	miniSMDM160	†	1.60	2.80	8	40	0.6	8.0	2.00	0.033	0.066	0.099	S5
New	miniSMDM160F*	†	1.60	2.80	8	40	0.6	8.0	2.00	0.033	0.066	0.099	S5
	miniSMDC200		2.00	4.00	6	40	0.6	8.0	5.00	0.020	0.050	0.070	S3
	miniSMDM200	†	2.00	3.50	8	40	0.6	8.0	3.00	0.020	0.040	0.060	S5
New	miniSMDM200F*	†	2.00	3.50	8	40	0.6	8.0	3.00	0.020	0.040	0.060	S5
	miniSMDC260		2.60	5.00	6	40	0.6	8.0	15.00	0.015	0.035	0.047	S3
	miniSMDM260	†	2.60	4.55	6	40	0.6	8.0	6.00	0.010	0.030	0.043	S5
New	miniSMDM260F*	†	2.60	4.55	6	40	0.6	8.0	6.00	0.010	0.030	0.043	S5
	miniSMDE Size 11550 mm/4420 mils												
	miniSMDE190	1.90	3.80	16	100	1.4	10	2.0	0.024	0.065	0.08		S3

*F: lead-free device †Electrical characteristics determined at 25°C.

4

Figures S11–S18. Typical Time-to-trip Curves at 20°C for Surface-mount Devices

Telecom and Networking Devices

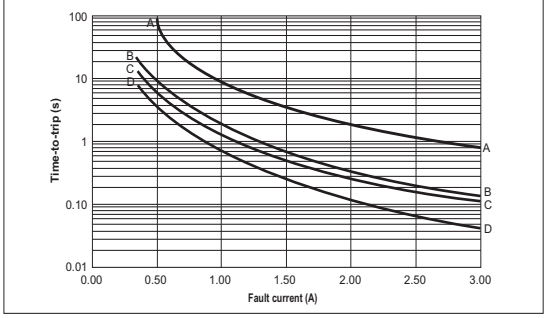
A = TS600-170/TS600-200

B = TS250-130

C = TSV250-130

D = TSL250-080

Figure S11



nanoSMD (data at 25°C)

A = nanoSMDM012

B = nanoSMDM016

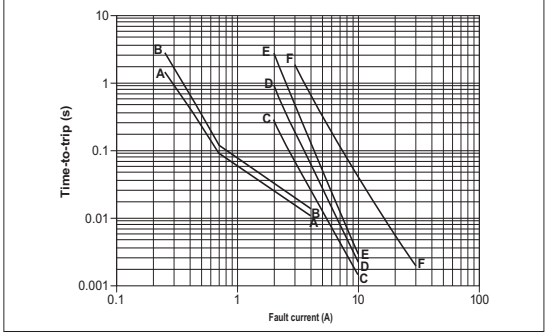
C = nanoSMDM050, nanoSMDM050F

D = nanoSMDM075, nanoSMDM075F

E = nanoSMDM100, nanoSMDM100F

F = nanoSMDC150

Figure S12



microSMD

A = microSMDM005

B = microSMD010

C = microSMD035

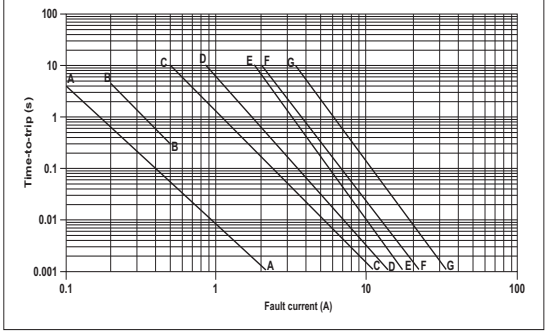
D = microSMD050

E = microSMD075

F = microSMD110

G = microSMD150

Figure S13



Figures S11–S18. Typical Time-to-trip Curves at 20°C for Surface-mount Devices *continued*

miniSMDM (data at 25°C)

A = miniSMDM075
B = miniSMDM075/24
C = miniSMDM110
D = miniSMDM110/16, miniSMDM110F/16
E = miniSMDM160, miniSMDM160F
F = miniSMDM200, miniSMDM200F
G = miniSMDM260, miniSMDM260F

miniSMDC and miniSMDE

A = miniSMDC014
B = miniSMDC020
C = miniSMDC050
D = miniSMDC075
E = miniSMDC110
F = miniSMDC125
G = miniSMDC150
H = miniSMDC160F
I = miniSMDC200
J = miniSMDE190
K = miniSMDC260

midSMD

A = SMD030-2018
B = SMD100-2018
C = SMD150-2018
D = SMD200-2018

Figure S14

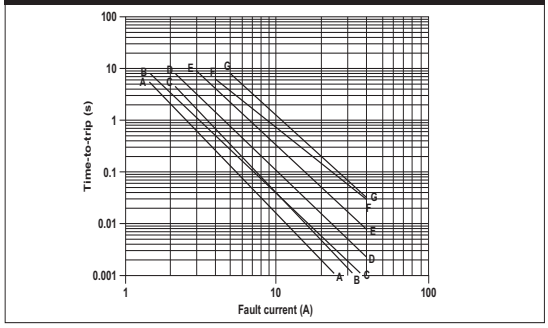


Figure S15

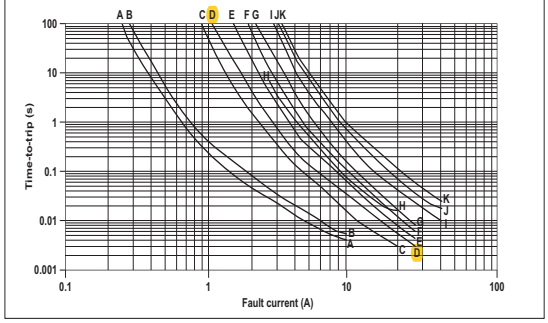
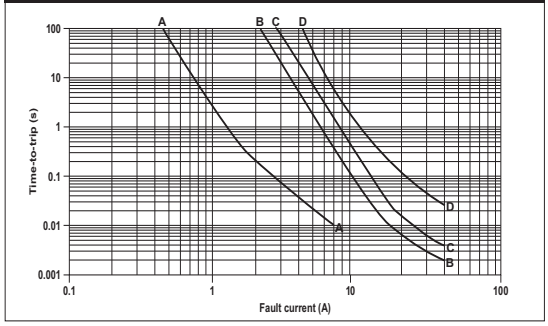


Figure S16

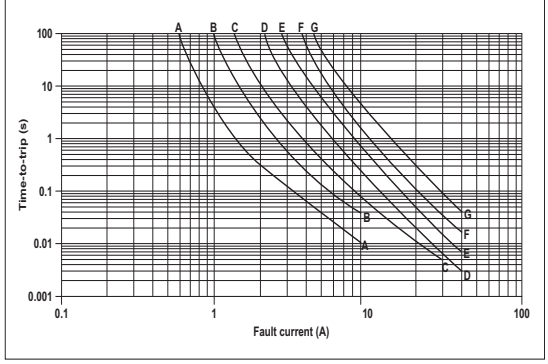


Figures S11–S18. Typical Time-to-Trip Curves at 20°C for Surface-mount Devices

SMD

A = SMD030
B = SMD050
C = SMD075
D = SMD100 and 100/33
E = SMD125
F = SMD260 and SMD260RB
G = SMD300

Figure S17



SMD2

A = SMD150 and 150/33
B = SMDH160
C = SMD185
D = SMD200
E = SMD250

Figure S18

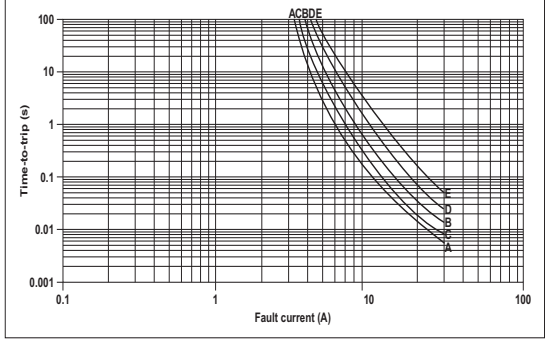


Table S5. Physical Characteristics and Environmental Specifications for Surface-mount Devices
Operating temperature range -40°C to 85°C, -40°C to 125°C for SMDH160

Physical Characteristics

Terminal pad material	Solder-plated copper for nanoSMDC, microSMD, and miniSMDC series Gold plating for nanoSMDM, and miniSMDM series 98% tin for SMD series
Soldering characteristics	ANSI/J-STD-002 Category 3 for nanoSMDC, nanoSMDM, microSMD, miniSMDC, and miniSMDM series ANSI/J-STD-002 Category 1 for SMD series
Solder heat withstand	per IEC-STD 68-2-20, Test Tb, Section 5, Method 1A
Flammability resistance	per IEC 695-2-2 Needle Flame Test for 20 sec.
Recommended storage conditions	40°C max, 70% R.H. max; devices may not meet specified ratings if storage conditions are exceeded.

Environmental Specifications

Test	Test Method	Conditions	Resistance Change
Passive aging	Raychem PS300, Section 5.3.2	60°C, 1000 hours	±3% typical
		85°C, 1000 hours	±5% typical
Humidity aging	Raychem PS300, Section 5.3.1	85°C, 85% RH, 100 hours	±1.2% typical
Thermal shock	MIL-STD-202, Method 107G	85°C, -40°C (20 times)	-33% typical
		125°C, -55°C (10 times)	-33% typical
Vibration	MIL-STD-883C	per MIL-STD-883C	No change
Solvent resistance	Raychem PS300, Section 5.2.2	Freon	No change
		Trichloroethane	No change
		Hydrocarbons	No change

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Agency Recognition for Surface-mount Devices*

UL	File # E74889 for all surface-mount devices
CSA	File # CA78165 for SMD/miniSMDC/miniSMDM/microSMD/nanoSMDC/nanoSMDM series
TÜV	Certificate # R9872048 for microSMD/miniSMDC/miniSMDM series Certificate # R2172061 for nanoSMDM/nanoSMDC series Certificate # R9872049 for SMD series

*Refer to Telecom and Networking section for agency recognition on Telecom and Networking Surface Mount Devices

Table S6. Packaging and Marking Information for Surface-mount Devices

Part Number	Tape & Reel Quantity	Standard Package	Part Marking	Recommended Pad Layout Figures [mm (In.)] Dimension A (Nom.)	Dimension B (Nom.)	Dimension C (Nom.)	Agency Recognition
nanoSMD							
nanoSMDM012	3,000	15,000	**012**	1.80 (0.071)	1.00 (0.039)	1.5 (0.059)	UL, CSA, TÜV
nanoSMDM016	3,000	15,000	**016**	1.80 (0.071)	1.00 (0.039)	1.5 (0.059)	UL, CSA, TÜV
nanoSMDM050	3,000	15,000	**050**	1.80 (0.071)	1.00 (0.039)	1.5 (0.059)	UL, CSA, TÜV
nanoSMDM050F	3,000	15,000	**05F**	1.80 (0.071)	1.00 (0.039)	1.5 (0.059)	UL, CSA, TÜV
nanoSMDM075	3,000	15,000	**075**	1.80 (0.071)	1.00 (0.039)	1.5 (0.059)	UL, CSA, TÜV
nanoSMDM075F	3,000	15,000	**07F**	1.80 (0.071)	1.00 (0.039)	1.5 (0.059)	UL, CSA, TÜV
nanoSMDM100	3,000	15,000	**100**	1.80 (0.071)	1.00 (0.039)	1.5 (0.059)	UL, CSA, TÜV
nanoSMDM100F	3,000	15,000	**10F**	1.80 (0.071)	1.00 (0.039)	1.5 (0.059)	UL, CSA, TÜV
nanoSMDC150	3,000	15,000	**J**	1.60 (0.063)	1.00 (0.039)	2.00 (0.079)	UL, CSA, TÜV
microSMD							
microSMD005	4,000	20,000	**05**	2.50 (0.098)	1.00 (0.039)	2.00 (0.079)	UL, CSA, TÜV
microSMD010	4,000	20,000	**10**	2.50 (0.098)	1.00 (0.039)	2.00 (0.079)	UL, CSA, TÜV
microSMD035	4,000	20,000	**3**	2.50 (0.098)	1.00 (0.039)	2.00 (0.079)	UL, CSA, TÜV
microSMD050	4,000	20,000	**50**	2.50 (0.098)	1.00 (0.039)	2.00 (0.079)	UL, CSA, TÜV
microSMD075	4,000	20,000	**75**	2.50 (0.098)	1.00 (0.039)	2.00 (0.079)	UL, CSA, TÜV
microSMD110	4,000	20,000	**11**	2.50 (0.098)	1.00 (0.039)	2.00 (0.079)	UL, CSA, TÜV
microSMD150	4,000	20,000	**15**	2.50 (0.098)	1.00 (0.039)	2.00 (0.079)	UL, CSA, TÜV
miniSMD							
miniSMDC014	2,000	10,000	**14**	3.15 (0.124)	1.78 (0.070)	3.45 (0.136)	UL, CSA, TÜV
miniSMDC020	2,000	10,000	**2**	3.15 (0.124)	1.78 (0.070)	3.45 (0.136)	UL, TÜV
miniSMDC050	2,000	10,000	**5**	3.15 (0.124)	1.78 (0.070)	3.45 (0.136)	UL, CSA, TÜV
miniSMDC075	2,000	10,000	**7**	3.15 (0.124)	1.78 (0.070)	3.45 (0.136)	UL, CSA, TÜV
miniSMDM075	3,000	15,000	**075**	3.20 (0.126)	1.50 (0.059)	2.50 (0.098)	UL, CSA, TÜV
miniSMDM075/24	3,000	15,000	**075G**	3.20 (0.126)	1.50 (0.059)	2.50 (0.098)	UL, CSA, TÜV
miniSMDC110	2,000	10,000	**1**	3.15 (0.124)	1.78 (0.070)	3.45 (0.136)	UL, CSA, TÜV
miniSMDM110	3,000	15,000	**110**	3.20 (0.126)	1.50 (0.059)	2.50 (0.098)	UL, CSA, TÜV
miniSMDM110/16	3,000	15,000	**110G**	3.20 (0.126)	1.50 (0.059)	2.50 (0.098)	UL, CSA, TÜV
miniSMDM110F/16	3,000	15,000	**11FG**	3.20 (0.126)	1.50 (0.059)	2.50 (0.098)	UL, CSA, TÜV
miniSMDC125	2,000	10,000	**12**	3.15 (0.124)	1.78 (0.070)	3.45 (0.136)	UL, CSA, TÜV
miniSMDC150	2,000	10,000	**15**	3.15 (0.124)	1.78 (0.070)	3.45 (0.136)	UL, CSA, TÜV
miniSMDC160F	2,000	10,000	**16**	3.15 (0.124)	1.78 (0.070)	3.45 (0.136)	UL, CSA, TÜV
miniSMDM160	3,000	15,000	**160**	3.20 (0.126)	1.50 (0.059)	2.50 (0.098)	UL, CSA, TÜV
miniSMDM160F	3,000	15,000	**160F**	3.20 (0.126)	1.50 (0.059)	2.50 (0.098)	UL, CSA, TÜV
miniSMDC200	2,000	10,000	**20**	3.15 (0.124)	1.78 (0.070)	3.45 (0.136)	UL, CSA, TÜV
miniSMDM200	3,000	15,000	**200**	3.20 (0.126)	1.50 (0.059)	2.50 (0.098)	UL, CSA, TÜV
miniSMDM200F	3,000	15,000	**200F**	3.20 (0.126)	1.50 (0.059)	2.50 (0.098)	UL, CSA, TÜV
miniSMDC260	1,500	7,500	**26**	3.15 (0.124)	1.78 (0.070)	3.45 (0.136)	UL, CSA, TÜV
miniSMDM260	3,000	15,000	**260**	3.20 (0.126)	1.50 (0.059)	2.50 (0.098)	UL, CSA, TÜV
miniSMDM260F	3,000	15,000	**260F**	3.20 (0.126)	1.50 (0.059)	2.50 (0.098)	UL, CSA, TÜV
midSMD							
SMD030-2018	4,000	20,000	**A03**	4.6 (0.18)	1.50 (0.059)	3.4 (0.134)	UL
SMD100-2018	4,000	20,000	**A10**	4.6 (0.18)	1.50 (0.059)	3.4 (0.134)	UL, CSA, TÜV
SMD150-2018	4,000	20,000	**A15**	4.6 (0.18)	1.50 (0.059)	3.4 (0.134)	UL, CSA, TÜV
SMD200-2018	4,000	20,000	**A20**	4.6 (0.18)	1.50 (0.059)	3.4 (0.134)	UL, CSA, TÜV
SMD							
SMD030	2,000	10,000	**030**	3.1 (0.12)	2.3 (0.09)	5.1 (0.201)	UL, CSA, TÜV
SMD050	2,000	10,000	**050**	3.1 (0.12)	2.3 (0.09)	5.1 (0.201)	UL, CSA, TÜV
SMD075	2,000	10,000	**075**	3.1 (0.12)	2.3 (0.09)	5.1 (0.201)	UL, CSA, TÜV
SMD100	2,000	10,000	**100**	3.1 (0.12)	2.3 (0.09)	5.1 (0.201)	UL, CSA, TÜV