



High Current Metal Foil Chip Fuse

AEC-Q200/  US /



EN 60127-7
EN 60127-1
IEC 60127-7
IEC 60127-1

www.tuv.com
ID 1111312273

Document No TCFM-120S001G

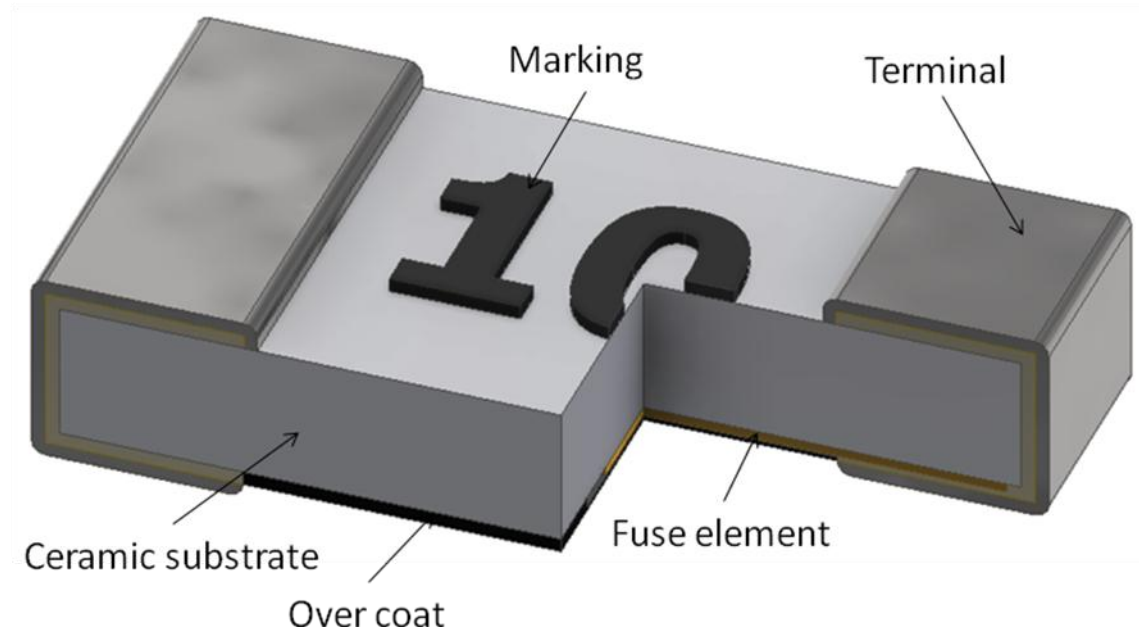
Issued date 2026/01/26

Page 1/11

1 Scope

This specification applies for the high current chip fuse series of surface mount fuse made by TA-I.

2 Construction



3 Type Designation

CFM	12	V3	T	10R0
Metal foil Chip Fuse	Size	Rated Voltage	Packaging	Rated Current
Chip Fuse	12:1206(3216)	VA:125V V7:75V V3:32V	T: Paper Tape (5K)	10A 12A 15A 20A



High Current Metal Foil Chip Fuse

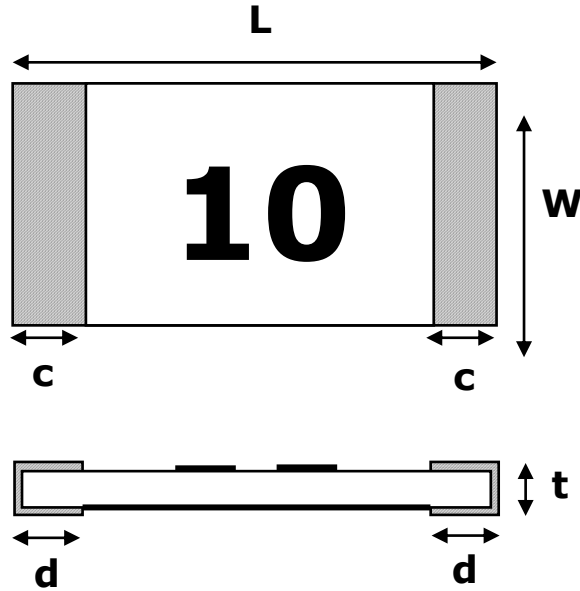
AEC-Q200/  US /



EN 60127-7
EN 60127-1
IEC 60127-7
IEC 60127-1
www.tuv.com
ID 1111312273

Document No	TCFM-120S001G
Issued date	2026/01/26
Page	2/11

4 Dimensions



Series	L	W	C	d	t
CFM12	3.20±0.20	1.65±0.20	0.65±0.20	0.65±0.20	0.70±0.20



High Current Metal Foil Chip Fuse

AEC-Q200/ C  US /



EN 60127-7
EN 60127-1
IEC 60127-7
IEC 60127-1

www.tuv.com
ID 1111312273

Document No TCFM-120S001G

Issued date 2026/01/26

Page 3/11

5 Applications and ratings

Part Designation	Marking	Rated Current	Resistance(mΩ) Tolerance±25%	Typical I ² t (A ² s)	Fusing Time	Rated Voltage	Breaking Capacity
CFM12VAT1R00	L	1.00A	230.00	0.09	250% rated current < 5 sec 350% rated current < 1 sec	DC 125V	125V/50A
CFM12VAT1R50	P	1.50A	170.00	0.49			
CFM12VAT1R60	N	1.60A	150.00	0.60			
CFM12VAT2R00	S	2.00A	70.00	0.71			
CFM12V7T2R50	T	2.50A	60.00	0.90		DC 75V	75V/50A
CFM12V7T3R00	3	3.00A	19.00	1.40			
CFM12V7T3R15	U	3.15A	18.00	1.45			
CFM12V7T3R50	H	3.50A	15.00	1.70			
CFM12V7T4R00	W	4.00A	13.00	2.00		DC 32V	32V/100A
CFM12V3T5R00	Y	5.00A	9.50	3.30			
CFM12V3T6R30	63	6.30A	7.50	7.00			
CFM12V3T7R00	7	7.00A	6.50	9.80			
CFM12V3T8R00	8	8.00A	5.50	10.00			
CFM12V3T10R0	10	10.00A	4.00	21.30			
CFM12V3T12R0	12	12.00A	3.20	42.00			
CFM12V3T15R0	15	15.00A	2.60	62.50			
CFM12V3T20R0	20	20.00A	2.15	90.00			

Note:

- Melting I²t at 0.001 second pre-arcing time.
- MSL : Level 1.



High Current Metal Foil Chip Fuse

AEC-Q200/ C  US /



EN 60127-7
EN 60127-1
IEC 60127-7
IEC 60127-1

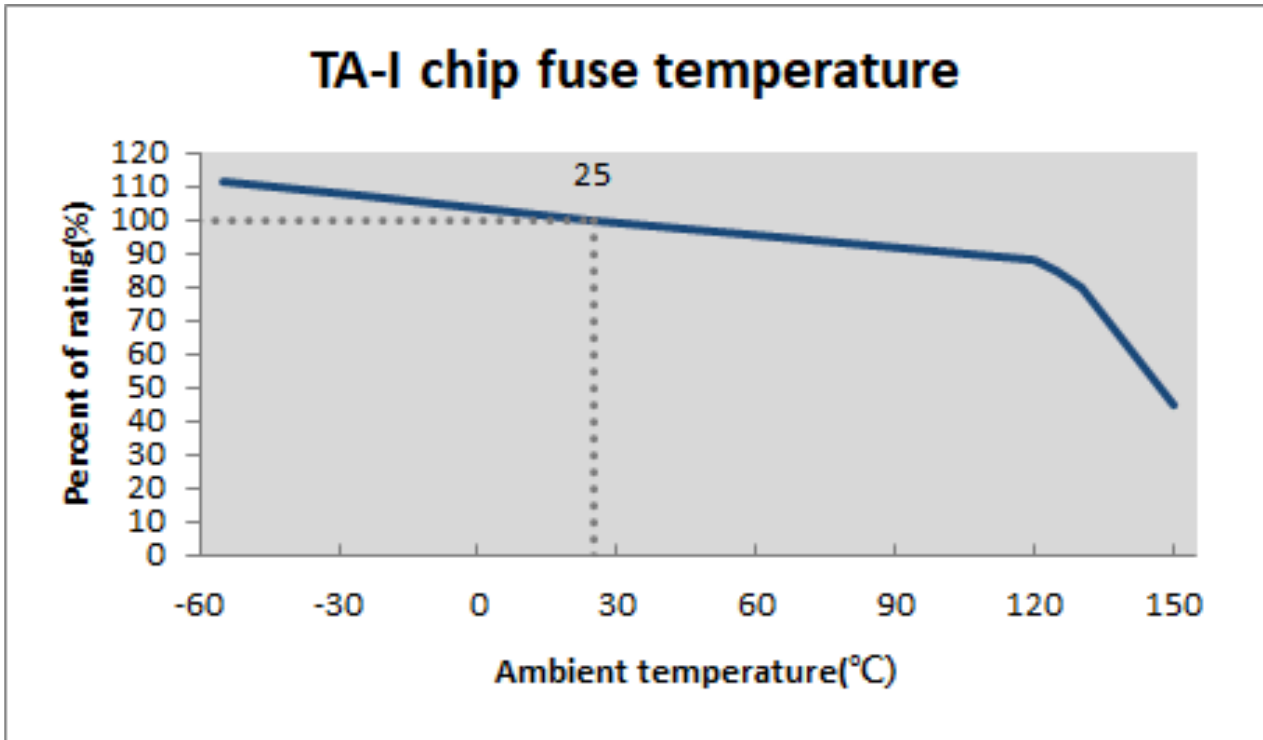
www.tuv.com
ID 1111312273

Document No	TCFM-120S001G
Issued date	2026/01/26
Page	4/11

6 Temperature Derating Curve

6.1 Normal Ambient Temperature: 25°C

6.2 Operating Temperature: -55°C~150°C, whit proper Derating factor as below:





High Current Metal Foil Chip Fuse

AEC-Q200/ C  US /



Document No TCFM-120S001G

Issued date 2026/01/26

Page 5/11

7 Reliability Tests

No.	Parameter	Reference Standard	Test Method	Requirement
#1	Solderability	J-STD-002	Aging 4 hours at 155 °C dry heat Lead-free solder bath at (1) Method B1: 245 ±5°C solder, 5±0.5 sec dwell. (2) Method D: 260 ±5°C solder, 30 ±0.5 sec dwell.	95% coverage minimum
#2	Resistance to solder Heat	MIL-STD-202 Method 210	Condition K: 250±5°C solder, 30±5 sec dwell. Time above 217 °C, 60~150 sec.	±10%
#3	Mechanical Shock	MIL-STD-202, Method 213,	Wave Form: Tolerance for half sine shock pulse. Peak value is 100g's. Normal duration(D) is 6(ms)	±10%
#4	Vibration	MIL-STD-202, Method 204	5 g's for 20 min., 12 cycles each of 3 orientations. (Note: Test from 10-2000 Hz.)	±10%
#5	Terminal Strength	AEC-Q200-006	Force of 1.8kg for 1206/0603 Force of 1.0kg for 0402	±10%
#6	High Temperature Storage	MIL-STD-202, Method 108	With exemptions 1000 hrs. @ T=150°C. Unpowered.	±20%
#7	Temperature Cycling	JESD22-A-104	1000 Cycles (-40°C to +125°C), 30min maximum dwell time at each temperature extreme. Measurement at 24±4 hours after test conclusion.	±10%
#8	Humidity Bias	MIL-STD-202, Method 103	1000 hours 85°C/85%RH. Note: Specified conditions: 10% of operating current. Measurement at 24±2 hours after test conclusion.	±10%
#9	Operational Life	MIL-STD-202 Method 108	1000 hours TA=85°C at 70% rated current. Measurement at 24±2 hours after test conclusion	±10%
#10	Resistance to Solvent	MIL-STD-202 Method 215	a:Isopropyl Alcohol b:Terpene Defluxer c:Deionized water : Propylene Glycol : Monomethyl Ether : monoethanolamine = 42 : 1 : 1	No evident damages on protective coating
#11	Board Flex (Bending)	AEC-Q200-005	3mm deflection, for 60 seconds	±10%
#12	Carrying capacity	UL248-14	Rated current ,4hr	±10%
#13	Fusing Time	UL248-14	250% of its rated current 350% of its rated current	<5 sec <1 sec
#14	Interrupting Ability	UL248-14	After the fuse is interrupted, rated voltage applied for 30sec again	No mechanical damages
#15	Temperature Rise	UL248-14	100% of its rated current, Measure of surface temperature	ΔT<75°C
#16	Residual Resistance	UL248-14	Measure DC resistance after fusing	10kΩ and more
#17	Low Temperature Storage	JESD22-A119	1000 hrs. @ T=-55°C. Unpowered. Measurement at 24±2 hours after test conclusion.	±10%
#18	High Temperature Operating Life	MIL-STD-202 Method 108	1,000 hours, 150°C. Biased at the derated nominal 45% of fuse current rating. Measurement at 24±2 hours after test conclusion.	±20%
#19	Flammability	UL-94	V-0 or V-1 are acceptable. Electrical test not required.	V-0 or V-1
#20	External Visual	MIL-STD-883 Method 2009	Inspect device construction, marking and workmanship. Pre and Post Electrical Test not required	
#21	Physical Dimensions	JESD22-B100	Verify physical dimensions to the applicable component specification. Pre and Post Electrical Test not required.	

Note: MSL= Level 1.



High Current Metal Foil Chip Fuse

AEC-Q200/  US /



EN 60127-7
EN 60127-1
IEC 60127-7
IEC 60127-1

www.tuv.com
ID 1111312273

Document No TCFM-120S001G

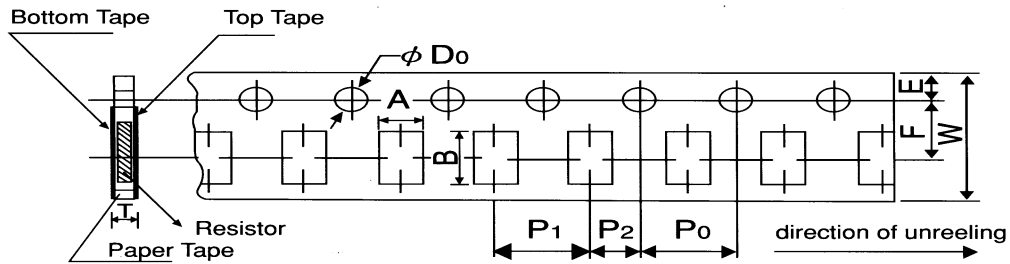
Issued date 2026/01/26

Page 6/11

8 Taping & Reel

8.1 Taping Dimensions

4mm pitch paper

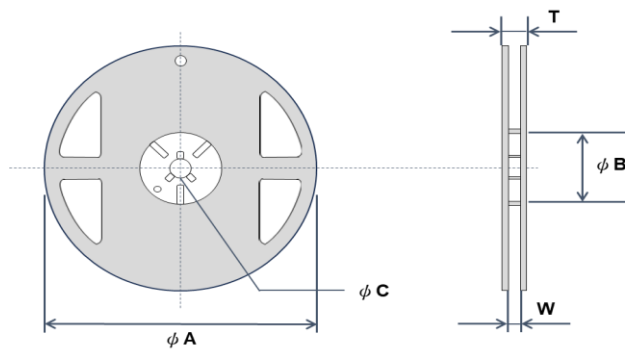


Packing	Type	A	B	W	F	E	P_1	P_2	P_0	D_0	T
Paper Tape	CFM12	2.0±0.15	3.6±0.2	8.0±0.2	3.5±0.05	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.1	$\psi 1.5$ +0.1 -0	0.84±0.1

Unit: mm

Type series		Paper Tape	
		4 mm pitch	
		180mm/R	
CFM	12	5000	

8.2 Reel Specifications



Unit: mm

Series	ΦA	ΦB	ΦC	W	T
CFM12	178±2.0	60.0±1.0	13.0±1.0	9.0±1.0	11.4±2.0



High Current Metal Foil Chip Fuse

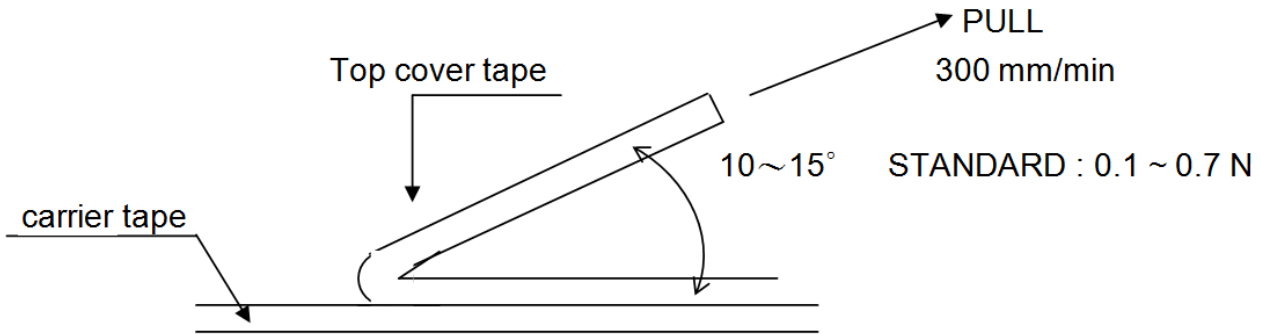
AEC-Q200/ C  /



EN 60127-7
EN 60127-1
IEC 60127-7
IEC 60127-1
www.tuv.com
ID 1111312273

Document No	TCFM-120S001G
Issued date	2026/01/26
Page	7/11

8.3 Peel –off force:



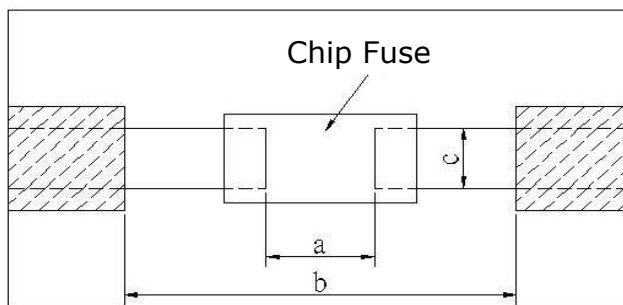
9 Storage Conditions:

Temperature: 5°C~35°C, Humidity: 40%~75%

10 Shelf Life:

2 years from manufacturing date

11 Recommended land patterns



Type	Land pattern Size	Dimension		
		a	b	c
CFM	12 (1206)	2.0~2.4	4.4~5.0	1.5~1.8



High Current Metal Foil Chip Fuse

AEC-Q200/ C  US /



EN 60127-7
EN 60127-1
IEC 60127-7
IEC 60127-1

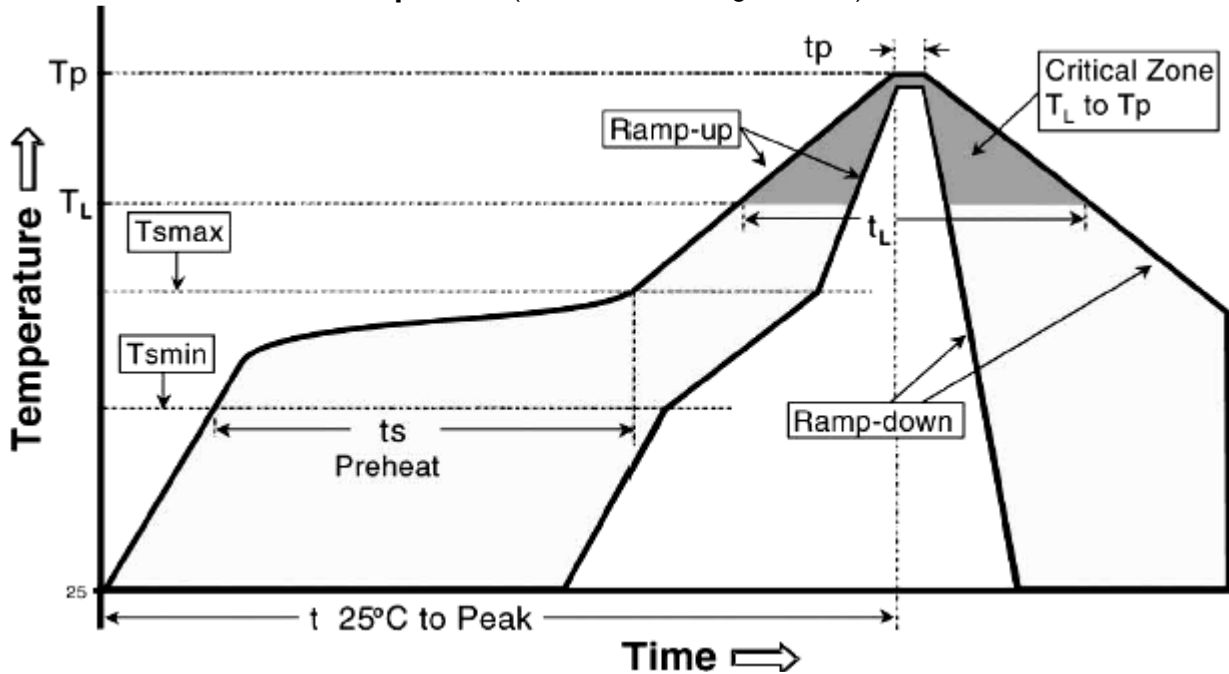
www.tuv.com
ID 1111312273

Document No TCFM-120S001G

Issued date 2026/01/26

Page 8/11

12 Recommend IR – Reflow profile: (solder: Sn96.5 / Ag3 / Cu0.5)



Profile Feature	Lead (Pb)-Free Assembly
Average ramp-up rate (T _{smax} to T _p)	3°C / second max.
Preheat - Temperature Min (T _{smin}) - Temperature Max (T _{smax}) - Time (T _{smin} to T _{smax}) (t _s)	150°C 200°C 60 -120 seconds
Time maintained above: - Temperature (T _L) - Time (T _L)	217°C 60-150 seconds
Peak Temperature (T _p)	MAX:260°C
Time within $\begin{matrix} +0 \\ -5 \end{matrix}$ °C of actual Peak Temperature (t _p) ²	30 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

Allowed Re-flow times: 3 times

Remark: To avoid discoloration phenomena of chip on terminal electrodes, please use N2 Re-flow furnace.



High Current Metal Foil Chip Fuse

AEC-Q200/ C  US /



EN 60127-7
EN 60127-1
IEC 60127-7
IEC 60127-1

www.tuv.com
ID 1111312273

Document No	TCFM-120S001G
Issued date	2026/01/26
Page	9/11

13 Safety Certificate

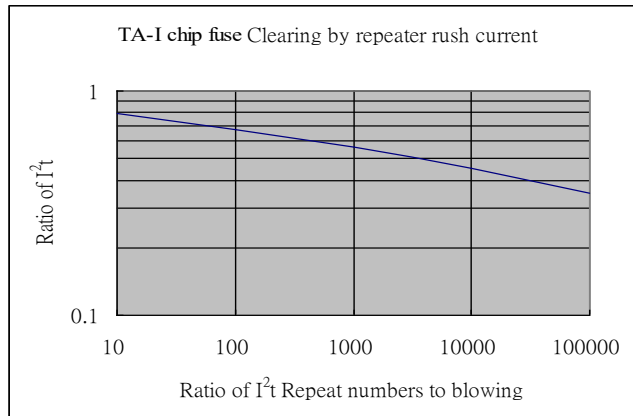
13.1 Approval by UL248-14

The fuses have been approved by UL.
File No. of UL Recognition is E241710

13.2 Approval by IEC60127-7

The fuses have been approved by TUV Rheinland.

14 Pulses derating curve:



15 ECN

Engineering Change Notice: The customer will be informed with ECN if there is significant modification on the characteristics and materials described in Approval Sheet.



High Current Metal Foil Chip Fuse

AEC-Q200/ C  US /



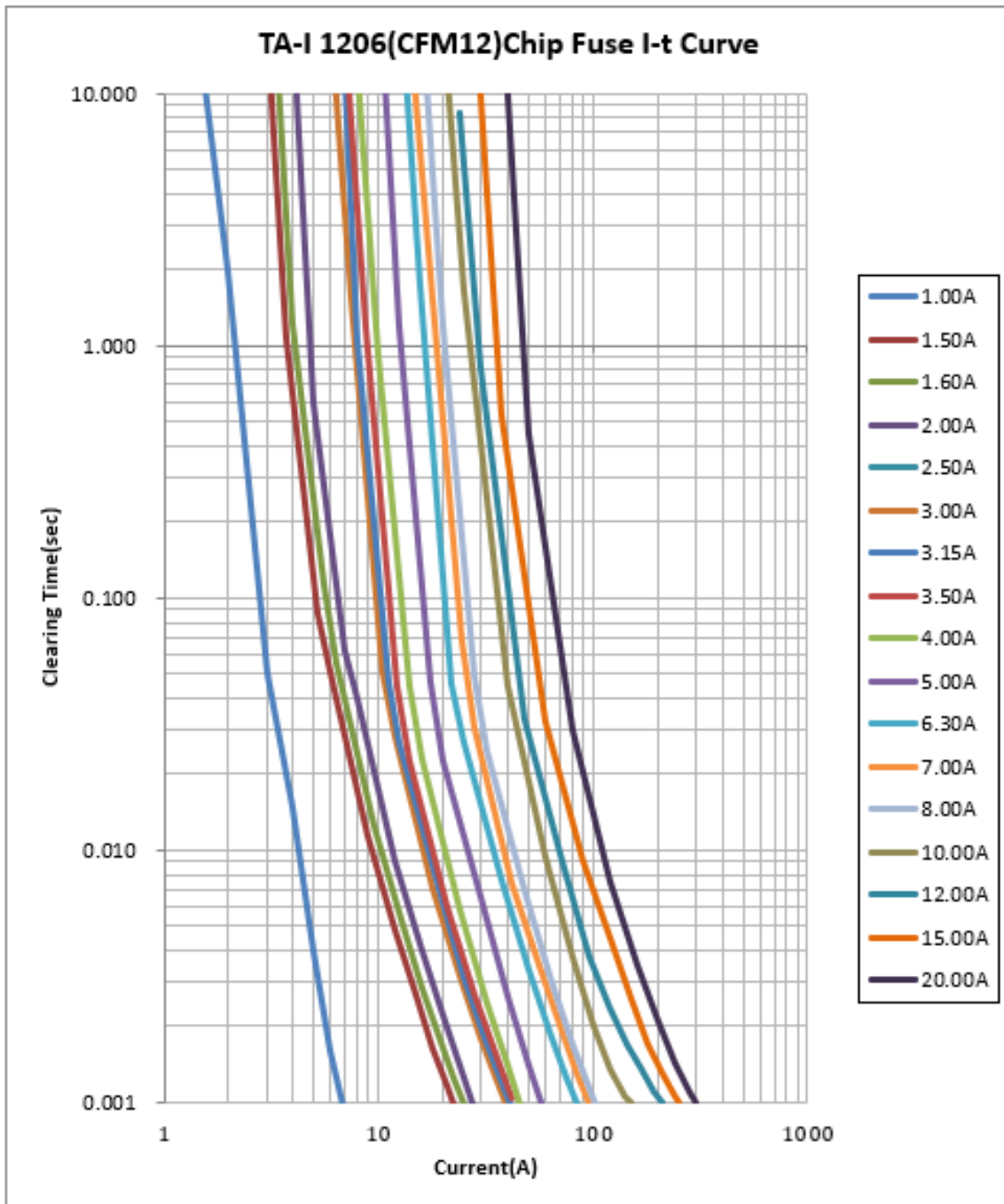
EN 60127-7
EN 60127-1
IEC 60127-7
IEC 60127-1
www.tuv.com
ID 1111312273

Document No TCFM-120S001G

Issued date 2026/01/26

Page 10/11

16TA-I 1206 Chip Fuse I-t Curve





High Current Metal Foil Chip Fuse

AEC-Q200/ C  US /



EN 60127-7
EN 60127-1
IEC 60127-7
IEC 60127-1
www.tuv.com
ID 1111312273

Document No	TCFM-120S001G
Issued date	2026/01/26
Page	11/11

17 TA-I 1206 Chip Fuse I²-t Curve

