

HOW TO ORDER

TCF Q 05 -V2- 1R0 M

Packaging
M = tape/reel

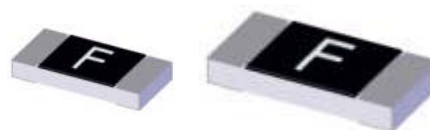
Rated Current
R50 = 0.5A
1R0 = 1A

Rated Voltage
 VA = 125V
 V6 = 63V
 V5 = 50V
 V3 = 32V
 V2 = 24V

Size
05 = 0402
16 = 0603
18 = 1206

Fuse Time
Blank = 1 min at 200%
Q = 5 sec at 250%

Series
Thin Film Chip Fuse



FEATURES

- Thin Film Chip Fuse
- Small and lightweight design
- Thin Film manufacturing method with stabilizing fusing characteristics
- Low internal resistance
- Suitable for over current protection

RECOGNIZED STANDARD

- UL248-14, File E241710
- ISO/TS 16949:2002 Certified

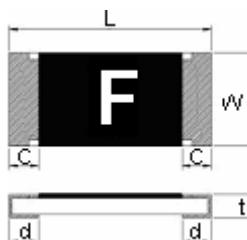
APPLICATIONS

- PC related equipment and peripherals: PC, Hard Drive, CD-R/RW, Printer, etc.
- Small portable devices: Mobile Phones, PDA , Battery, Charges
- Digital Camera
- Game Equipment
- LCD monitors, LCD modules, (backlight inverter)

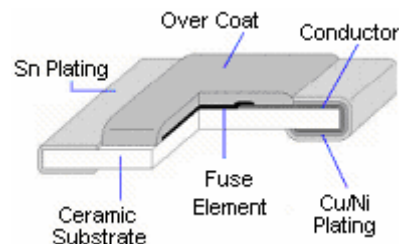
DIMENSIONS (mm)

Series	TCF05	TCF16	TCF18
	TCFQ05	TCFQ16	TCFQ18
Size	0402	0603	1206
L	1.0 ± 0.1	1.6 ± 0.1	3.1 ± 0.1
W	0.52 ± 0.05	0.80 ± 0.10	1.55 ± 0.10
C	0.2 ± 0.1	0.3 ± 0.2	0.5 ± 0.3
d	0.25 ± 0.1	0.35 ± 0.2	0.40 ± 0.2
t	0.35 ± 0.05	0.45 ± 0.1	0.60 ± 0.1

SCHEMATIC



CONSTRUCTION



PERFORMANCE

Item	Requirement	Test Condition
Carrying Capacity	No Fusing	Rated Current, 4 hours
Interrupting Ability	No mechanical damage	After the fuse is interrupted, rated voltage is applied for 30 sec. again
Bending Test	No mechanical damage	Distance between holding points: 90mm, bending: 3 mm for 1 time
Resistance to Solder Heat	±20%	260°C ± 5°C, 10 ± 1 seconds
Solderability	95% coverage minimum	235°C ± 5°C, 2 ± 0.5 seconds
Temperature Rise	< 75°C	100% of its rated current, measure of surface temperature
Resistance to Dry Heat	±20%	105°C ± 5°C for 1000 hours
Resistance to Solvent	No evident damages on protective coating and marking	23°C ± 5°C of isopropyl alcohol for 90 seconds
Residual Heat	≥ 10K Ω	Measure DC resistance after fusing
Thermal Shock	ΔR < 10%	-20°C/+25°C/+125°C/+25°C for 10 cycles

1206 - ELECTRICAL CHARACTERISTICS

Part Number	Marking	Rated Current	TCF Series			TCFQ Series		
			Resistance (mΩ) Typical*	Rated Voltage	Breaking Capacity	Resistance (mΩ) Typical*	Rated Voltage	Breaking Capacity
TCF□18-V6-R500M	F	0.50A	590	DC 63V	DC 63V 50A	385	DC 63V	DC 63V 50A
TCF□18-V6-R800M	K	0.80A	225			165		
TCF□18-V6-1R00M	L	1.00A	130			108		
TCF□18-V6-1R25M	M	1.25A	88			76		
TCF□18-V6-1R50M	P	1.50A	65			51		
TCF□18-V6-2R00M	S	2.00A	38			32		
TCF□18-V3-2R50M	T	2.50A	32	DC 32V	DC 32V 50A	26	DC 32V	DC 32V 50A
TCF□18-V3-3R00M	3	3.00A	23			20		
TCF□18-V2-4R00M	W	4.00A	15	DC 24V	DC 24V 50A	14	DC 24V	DC 24V 50A
TCF□18-V2-5R00M	Y	5.00A	11			10		
TCF□18-V2-7R00M	Z	7.00A	7			6.5		

0603 - ELECTRICAL CHARACTERISTICS

TCF Series				TCFQ Series				Marking	Rated Current
Part Number	Resistance (mΩ) Typ*	Rated Voltage	Breaking Capacity	Part Number	Resistance (mΩ) Typical*	Rated Voltage	Breaking Capacity		
TCF16-V5-R500M	250	DC 50V	DC 50V 50A	TCFQ16-V5-R500M	175	DC 50V	DC 50V 50A	F	0.50A
TCF16-V3-R630M	173	DC 32V	DC 32V 50A	TCFQ16-V3-R630M	130	DC 32V	DC 32V 50A	I	0.63A
TCF16-V3-R800M	115			TCFQ16-V3-R800M	93			K	0.80A
TCF16-V3-1R00M	88			TCFQ16-V3-1R00M	65			L	1.00A
TCF16-V3-1R25M	63			TCFQ16-V3-1R25M	47			M	1.25A
TCF16-V3-1R50M	45			TCFQ16-V3-1R50M	36			P	1.50A
TCF16-V3-1R60M	42			TCFQ16-V3-1R60M	34			N	1.60A
TCF16-V3-2R00M	33			TCFQ16-V3-2R00M	26			S	2.00A
TCF16-V2-2R50M	24	DC 24V	DC 24V 50A	TCFQ16-V3-2R50M	20			T	2.50A
TCF16-V2-3R00M	21			TCFQ16-V3-3R00M	16			3	3.00A
TCF16-V2-3R15M	19			TCFQ16-V3-3R15M	15			U	3.15A
TCF16-V3-4R00M	15	DC 32V	DC 32V 50A	TCFQ16-V3-4R00M	12			W	4.00A
TCF16-V3-5R00M	12			TCFQ16-V3-5R00M	9			Y	5.00A

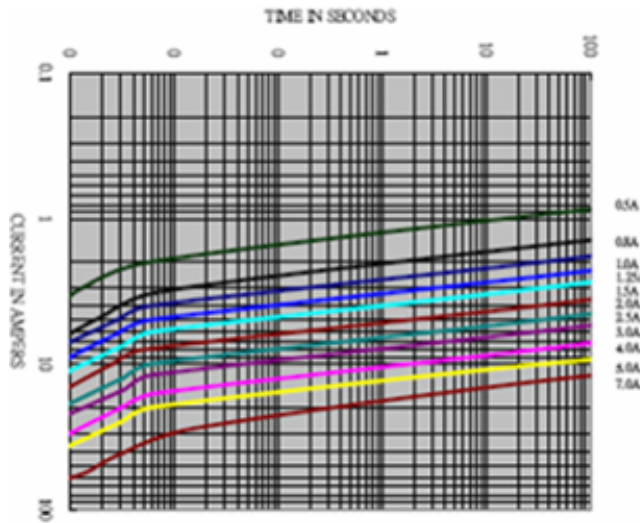
0402 - ELECTRICAL CHARACTERISTICS

Part Number	Marking	Rated Current	TCF Series			TCFQ Series		
			Resistance (mΩ) Typical*	Rated Voltage	Breaking Capacity	Resistance (mΩ) Typical*	Rated Voltage	Breaking Capacity
TCF□05-V2-R500M	F	0.50A	320	DC 24V	DC 24V 35A	235	DC 24V	DC 24V 35A
TCF□05-V2-R800M	K	0.80A	120			86		
TCF□05-V2-1R00M	L	1.00A	90			64		
TCF□05-V2-1R25M	M	1.25A	67			45		
TCF□05-V2-1R50M	P	1.50A	51			35		
TCF□05-V2-1R60M	N	1.60A	46			32		
TCF□05-V2-2R00M	S	2.00A	33			24		
TCF□05-V2-2R50M	T	2.50A	25			19		
TCF□05-V2-3R00M	3	3.00A	20			15		
TCF□05-V2-3R15M	U	3.15A	19			14		
TCF□05-V2-4R00M	W	4.00A	16			10.5		

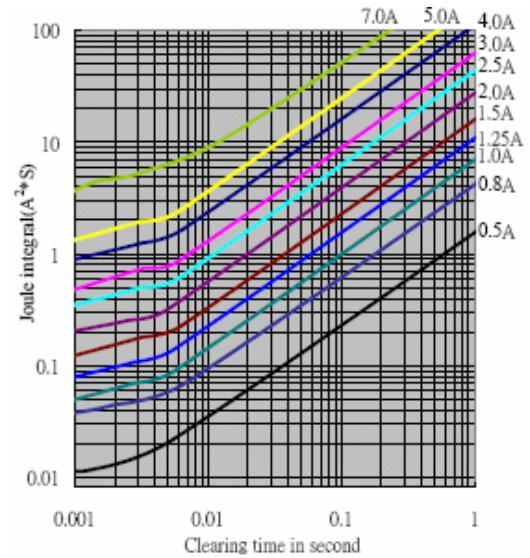
SHARED ELECTRICAL CHARACTERISTICS

Characteristic	TCF Series	TCFQ Series
Fusing Time	opens within 1min. at 200% rated current	opens within 5 sec. at 250% rated current
Body Temperature Rising	<75°C at 100% rated current	<75°C at 100% rated current
*Typical Resistance Value	measured with less than 10% of rated current	measured with less than 10% of rated current

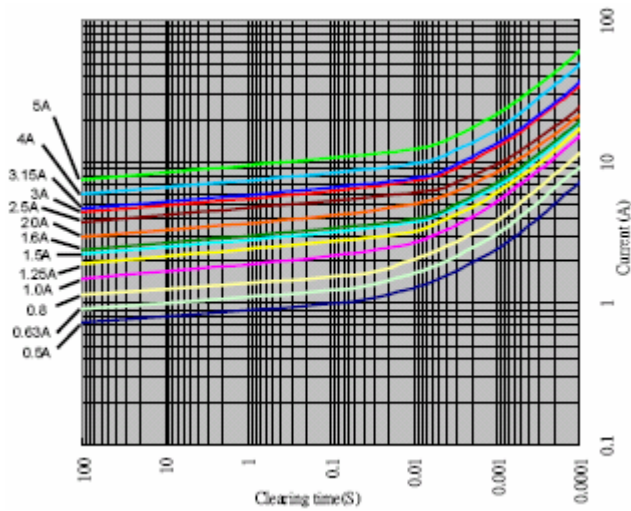
TCF18 I-t Curve



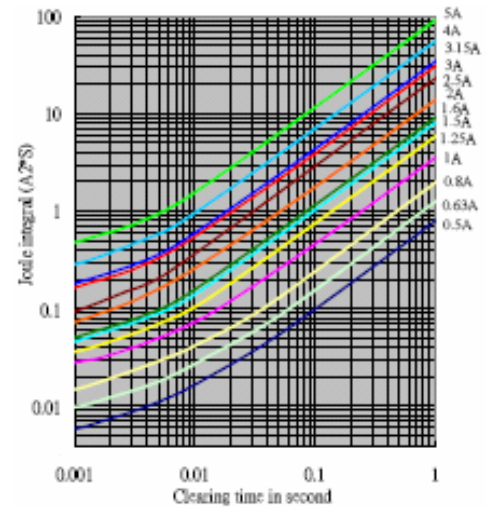
TCFQ18 I-t Curve



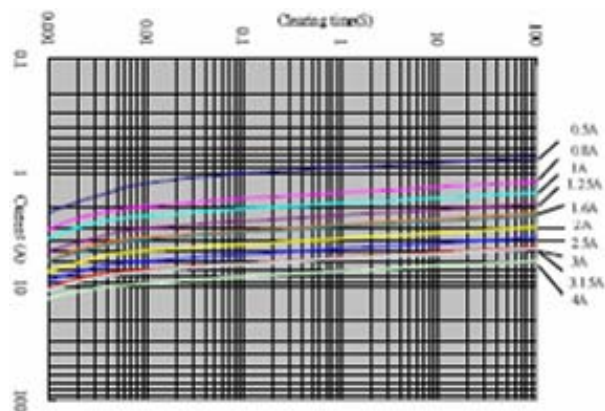
TCF16 I-t Curve



TCFQ16 I-t Curve



TCF05 I-t Curve



TCFQ05 I-t Curve

