

NEW PRODUCT BRIEF



Bourns® SinglFuse™ SF-3812TM-T Telecom Fuses

INTRODUCTION

The new [Bourns® SinglFuse™ SF-3812TM-T](#) series is a 600 VAC telecom fuse designed to replace Bourns' discontinued Telefuse™ part numbers B0500T, B1250T, and B2000T. The new SF-3812TM-T series is Telcordia GR-1089-CORE and UL 60950 compliant, UL 248-14 listed, and is intended for use in telecom circuit applications requiring low current protection with high surge tolerance.

PRODUCT FIT

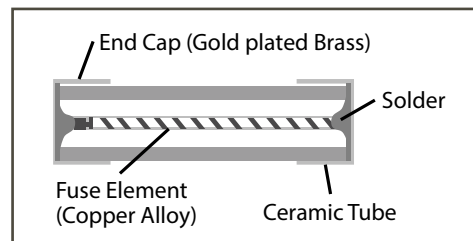
The demand for access to broadband, speed, and capacity is seemingly insatiable. Two factors will continue driving this push for higher speed connectivity into the next decade: 1) demand for high definition video streaming, and 2) the rise of digital Internet of Things (IoT) devices in businesses and homes. This demand for faster connection speed is driving service providers – particularly in Asia – to install fiber directly to the building for new connections. However, there are many developed economies around the world where last mile copper loop is still dominant (i.g. Western Europe and North America), and a stepped approach is being implemented. The last mile remains copper but service providers are upgrading the network to handle higher data rates with the adoption of VDSL2 and G.Fast.

Circuit designers for VDSL and G.Fast have numerous protection devices to choose from for overvoltage protection (GDTs and TVS diodes) and overcurrent protection (fuses and PTC devices). The challenge is to use them effectively, balancing the need for protection, cost and maintaining signal integrity. The Bourns® SinglFuse™ SMD Fuse model family SF-3812TM-T offers excellent overcurrent protection on the tip-and-ring line when used in conjunction with overvoltage protection devices like Bourns® TVS, MOV or GDT products.

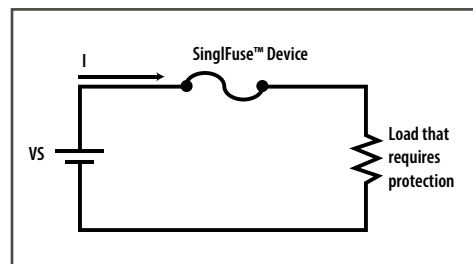
FEATURES

- Single blow fuse for overcurrent protection
- Ceramic tube wire-in-air design
- Gold plated brass end caps
- EIA 3812 surface mount footprint
- 600 VAC with current ratings of 0.5 A, 1.25 A, and 2 A
- Breaking capacity 60 A @600 VAC
- Rated operating temperature from -55 °C to +125 °C
- Tape & reel packaging for automated assembly
- Telcordia GR-1089-CORE and UL 60950 compliant
- UL 248-14 listed
- RoHS compliant*
- Halogen free**

BASIC CONSTRUCTION



CIRCUIT DIAGRAMS



Circuit Diagram - Typical Application

BENEFITS

- High rated voltage with high surge tolerance
- Telcordia GR-1089-CORE and UL 60950 listed
- Can be combined with [Bourns® TISP®](#) products for overvoltage protection
- Supported by Bourns' world-class technical support and global supply chain

APPLICATIONS

The Bourns® SinglFuse™ SF-3812TM-T series is best suited for telecommunication applications and surge protection systems. Typical applications include:

- Telecom and networking equipment
- T1/E1/J1
- 10/100/1000 BaseT Ethernet
- xDSL (VDSL/VDSL2+, ADSL/ADSL2+)
- Fiber to the Curb (FTTC)
- Fiber to the Premises (FTTP)
- POTS systems including phones, modems, and security systems

* RoHS3 Directive 2015/863 Amendments of Annex II on March 31, 2015.

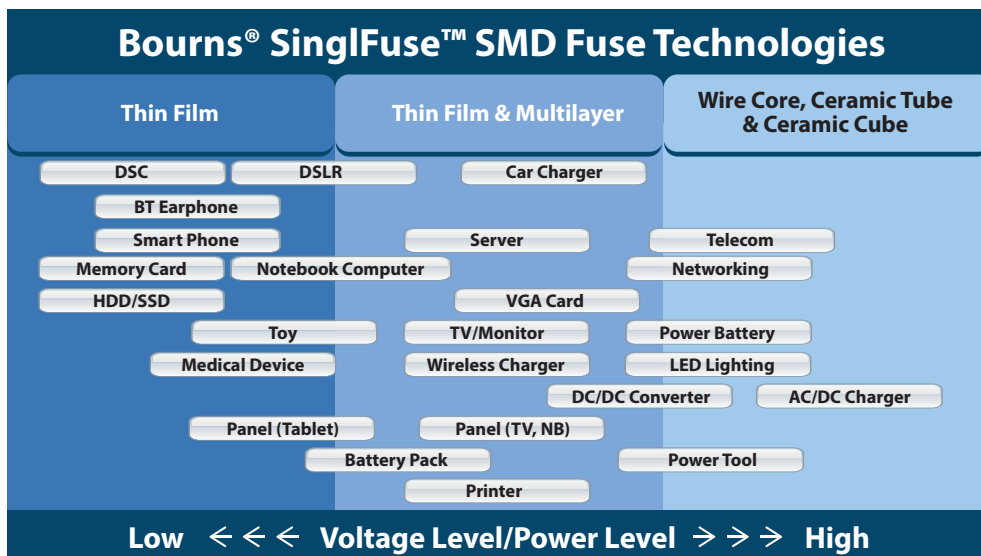
** Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.



Bourns® SinglFuse™ SF-3812TM-T Telecom Fuses

PRODUCT FIT

With the new 600V AC SF-3812TM-T series, Bourns continues to expand its SinglFuse™ product offering to address an increasing number of high surge and high power applications.



PRODUCT CHARACTERISTICS

Part Number	Photo	Fusing Time	Rated Current	Rated Voltage	Breaking Capacity	Resistance (Ω)	Typical I ² t (A ² s)	Operating Temperature
SF-3812TM050T-2		1-120 sec @ 250 % I _r	0.5 A	600 VAC	60 A @ 600 VAC 60 A @ 250 VAC 100 A @ 125 VDC 50 A @ 250 VDC	0.48	1.4	-55 °C to +125 °C
SF-3812TM125T-2		1-120 sec @ 250 % I _r	1.25 A	600 VAC	60 A @ 600 VAC 60 A @ 250 VAC 100 A @ 125 VDC 50 A @ 250 VDC	0.10	22	-55 °C to +125 °C
SF-3812TM200T-2		1-120 sec @ 250 % I _r	2 A	600 VAC	60 A @ 600 VAC 60 A @ 250 VAC 100 A @ 125 VDC 50 A @ 250 VDC	0.055	24	-55 °C to +125 °C



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