

Specification Status: Released

Operating Conditions at 20°C:

Maximum Continuous Operating Voltage (V_{MCO}): 100V_{DC}

Maximum Interrupt Current (I_{INT}): 10A_{RMS}

Fault Ratings at 20°C:

250 V_{RMS}, 3A, 10 applications

(See page 2 of this SCD for further application fault ratings)

Additional Info at 20°C:

- Resistance matched: n/a
- Lightning withstand: 4.0 kV with primary protection per ITU-T K.20, K.21
- Helps equipment meet ITU-T K.20, K.21 Recommendations
- Helps equipment meet Telcordia GR1089 intrabuilding requirements

Lead Material:

22 AWG Sn-Plated Copper (0.64 mm [0.025"] nominal diameter)

External Coating Material:

Cured, flame retardant epoxy polymer, meeting UL94 V-0 requirements

Marking:

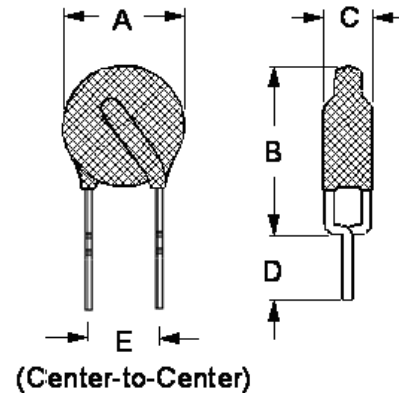
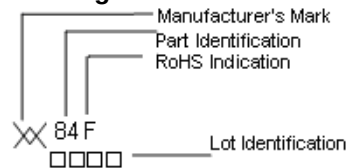


TABLE I. DIMENSIONS:

	A		B		C		D		E
mm:	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	NOM
in.*	--	7.7	--	10.5	--	4.6	4.7	--	5.0
	--	(0.30)	--	(0.41)	--	(0.18)	(0.19)	--	(0.20)

*Rounded off approximation

TABLE II. PERFORMANCE RATINGS @ 20°C: As measured in Mueller Kelvin Clips:

HOLD CURRENT (A)	TRIP CURRENT (A)	RESISTANCE (Ω)			TIME TO TRIP(Sec) @ 3A		OPERATING TEMPERATURE (°C)		TRIPPED POWER DISSIPATION (W) @ 100V _{DC}	
		R MIN	R MAX	R ₁ MAX*	TYP	MAX	MIN	MAX	TYP	MAX
0.184	1.0	1.2	2.4	3.1	0.5	1.3	0	85	0.9	1.1

*Post Trip Resistance measured after one hour.

TABLE III. APPLICABLE PART DESCRIPTIONS:

PART DESCRIPTION	PACKAGING TYPE	NOTES
TRF250-184	Bulk	N/A

Agency Recognitions: UL (File # E74889), CSA (File #1026908), and TUV (License #R72041425).
Reference Documents: PS300, ITU-T K.20, K.21
Precedence: This specification takes precedence over documents referenced herein.
Effectivity: Reference documents shall be the issue in effect on the date of invitation for bid.
CAUTION: Operation beyond the rated voltage or current may result in rupture, electrical arcing or flame.

Materials Information

ROHS Compliant

ELV Compliant

Pb-Free

Directive 2002/95/EC
Compliant

Directive 2000/53/EC
Compliant

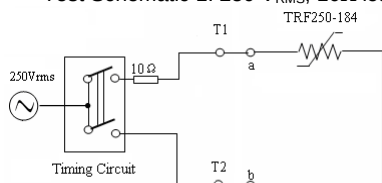


Additional Application Fault Ratings at 20°C

I) Power contact: 250 V_{RMS}, 10Ω load in series with TRF250-184, 1 application, t = 15 min (see Test Schematic 1 below).

- Meets Acceptance Criterion A or B of ITU-T K.20, K.21.

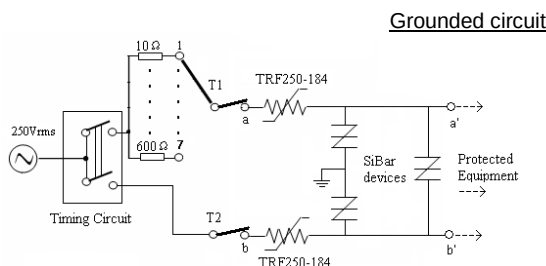
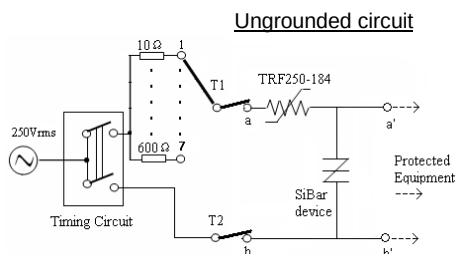
Test Schematic 1: 250 V_{RMS}, 10Ω load in series with TRF250-184:



II) Power contact: 250 V_{RMS}, sequentially testing at 10Ω, 20Ω, 40Ω, 80Ω, 160Ω, 300Ω, 600Ω, in series with TRF250-184 & SiBar™ devices, total 7 applications, t = 2 min at each load, 5 min wait between applications (see Test Schematic 2 below).

- Tested (a) to (b) with ungrounded circuit.
- Tested either transversely [a- terminal and ground together to b- terminal, b-terminal and ground together to a- terminal], or port-to-earth [(a and b) together to ground with grounded circuit.
- Meets Acceptance Criterion A or B of ITU-T K.20, K.21.

Test Schematic 2: 250 V_{RMS}, 10Ω to 600Ω load in series with TRF250-184 & SiBar devices:



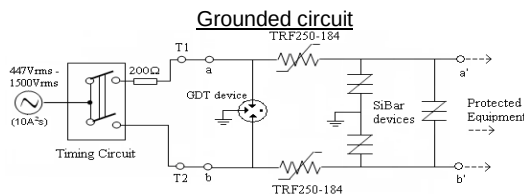
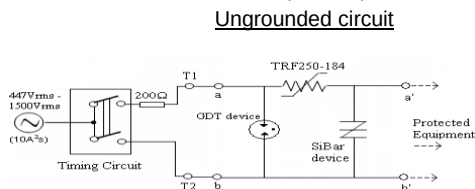
Note:

- SiBar device (TVB275NSB-L): $V_{DM} = 275V$ maximum, $V_{BO} = 350V$ maximum, $I_{PP} = 100A$ ($V_{OC} 10/700\mu s$).

III) Power induction (10A²s): 447_{RMS} (t = 2.0s) to 1500 V_{RMS} (t=0.18s), 200Ω load in series with TRF250-184 & SiBar devices with primary protection, 5 applications, 1 min wait between applications (see Test Schematic 3 below).

- Tested (a) to (b) with ungrounded circuit.
- Tested either transversely [a- terminal and ground together to b- terminal, b-terminal and ground together to a- terminal], or port-to-earth [(a and b) together to ground with grounded circuit.
- Meets Acceptance Criterion A or B of ITU-T K.20, K.21.

Test Schematic 3: 447_{RMS} (t = 2.0s) to 1500 V_{RMS} (t=0.18s), 200Ω load in series with TRF250-184, SiBar, GDT devices:



Note:

- SiBar device (TVB275NSB-L): $V_{DM} = 275V$ maximum, $V_{BO} = 350V$ maximum, $I_{PP} = 100A$ ($V_{OC} 10/700\mu s$)
- GDT device (GTCA28-421M-R10 for ungrounded circuit and GTCR(A)38-421M-R10 for grounded circuit): Nominal DC sparkover voltage = 420V @100V/s

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