

# HIGH FREQUENCY MAGNETICS

## DS3/E3/STS-1 Dual-ratio Surface Mount Transformer

TM00149

- Miniature transformer supports E3, DS3, SONET STS-1 rates (34.368, 44.736, 51.84 Mb/s)
- Dual ratios for multiple applications:  
Turns ratios: 1:1 and 1:2CT  
Impedance ratios: 1:1 and 1:4
- Superior temperature linearity
- External shield for EMI suppression
- Can handle 15 mA DC Bias
- Operating temperature range: -40° C to +85° C
- Meets IEC 695, 2-2 flammability requirements
- PWB Process Capability: standard printed wiring board assembly techniques, total-immersion cleaning
- Reliability testing: shock, vibration, temperature cycling, temperature - humidity - bias
- Precision machine winding: 1% tolerance
- Minimum interwinding breakdown voltage of 1500 Vrms

### ELECTRICAL SPECIFICATIONS at 25° C

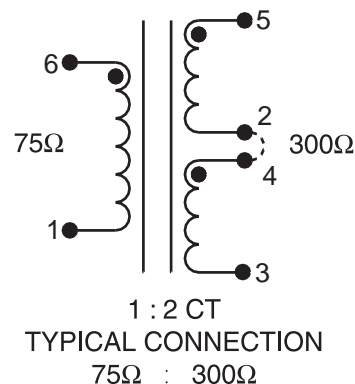
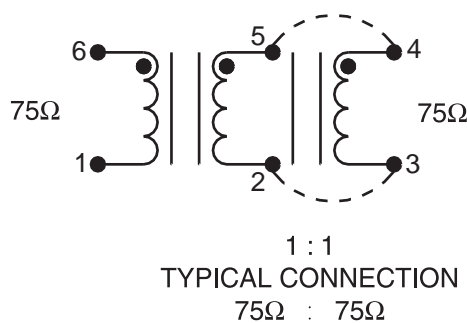
Part Number	Turns Ratio ± 1%		Inductance <sup>3</sup> μH min	Leakage Inductance <sup>4</sup> μH max	DCR			Interwinding Capacitance pF typ	Surge Voltage Capability <sup>2</sup>	
					(1 - 6)	(2-5)	(3-4)		Metallic	Longitudinal
	(1-6) : (3-4) <sup>1</sup>	(1-6) : (3-5) <sup>2</sup>	(1 - 6)	Ω max	Ω max	Ω max	V peak	V peak		
2795M	1 : 1	1 : 2 CT	42	0.1	0.2	0.2	0.2	10	4000	2500

1. with 2 & 3 connected and 4 & 5 connected
2. with 2 and 4 connected
3. measured at 10 kHz, 0.1 Vac
4. measured at 100 kHz, 0.1 Vac

Typical Frequency and Time Response		
Terminating Impedances	Bandwidth (3 dB)	Risetime
75Ω : 75Ω & 75Ω : 300Ω	150 kHz - 350 MHz	0.8 ns

### SCHEMATICS

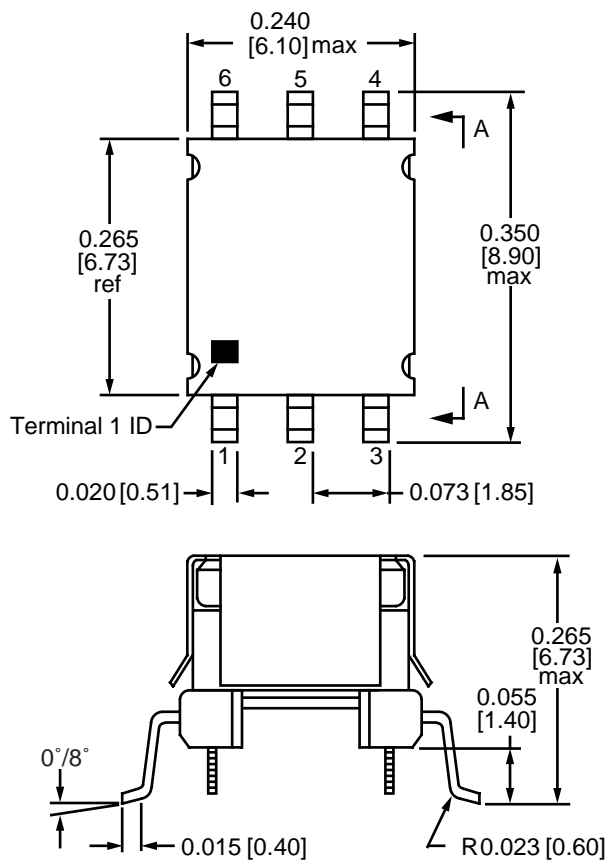
2795M



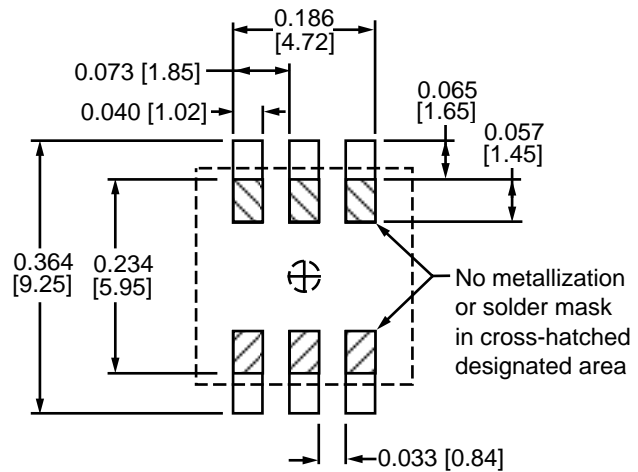
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TM00149

#### MECHANICAL



2795M



Suggested PCB Pad Layout

Note: Unless otherwise specified, dimensions are nominal and in inches [millimeters].

#### Supplementary Information

Safety Agency Compatibility	Underwriters Laboratories, Inc. UL 1950
Surge Voltage Capability	10/700 $\mu$ s; 10 repetitions of alternating polarity, generator output: peak voltage, 25 $\Omega$ source
Flammability Compliance	IEC-695, 2-2 (needle flame test), materials are UL 94 VO approved
Simulation Model	SPICE computer simulation file available on request
Surface-Mount Packaging	Tape and Reel; 16 mm wide by 12 mm pitch; 13 inch OD; 4 inch ID 650 transformers per reel, maximum Meets ANSI/EIA 481-2 Carrier Tape Standards—JEDEC SO package
Terminal Lead Coplanarity	0.004 inch [0.10 mm]
PWB Process Capability	Machine placement (recommendation: locate by terminals, not body)

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