

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

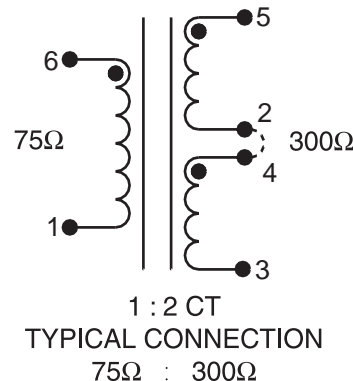
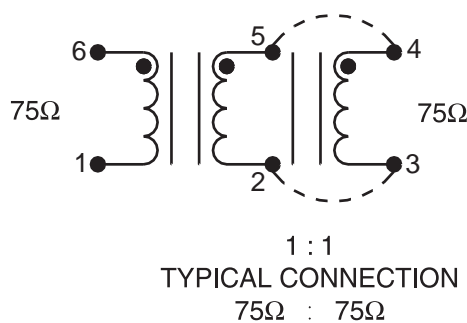
| Part Number | Turns Ratio ± 1% | | Inductance ³ μH min | Leakage Inductance ⁴ μH max | DCR | | | Interwinding Capacitance pF typ | Surge Voltage Capability ² | |
|-------------|----------------------------|----------------------------|-----------------------------------|-------------------------------------------|---------|-------|--------|------------------------------------|---------------------------------------|--------------|
| | | | | | (1 - 6) | (2-5) | (3-4) | | Metallic | Longitudinal |
| | (1-6) : (3-4) ¹ | (1-6) : (3-5) ² | (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

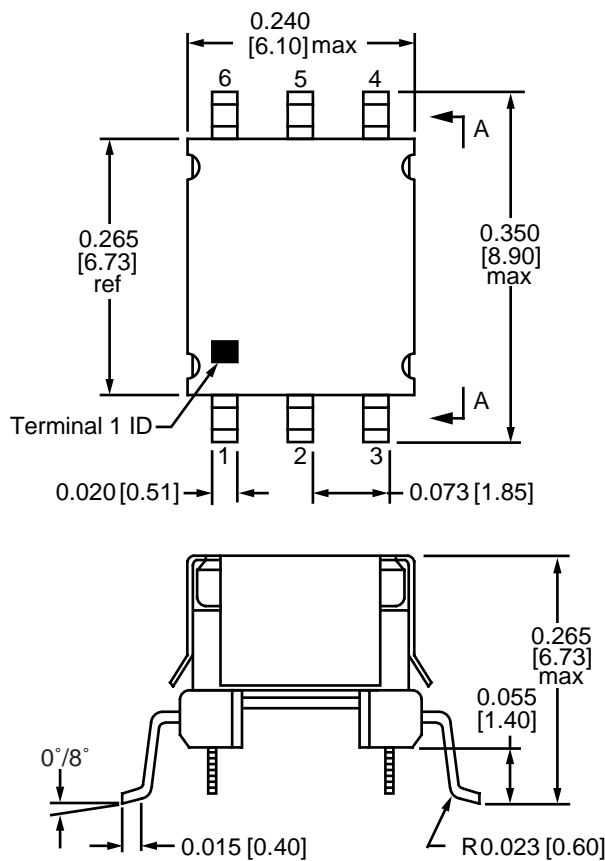
2795M



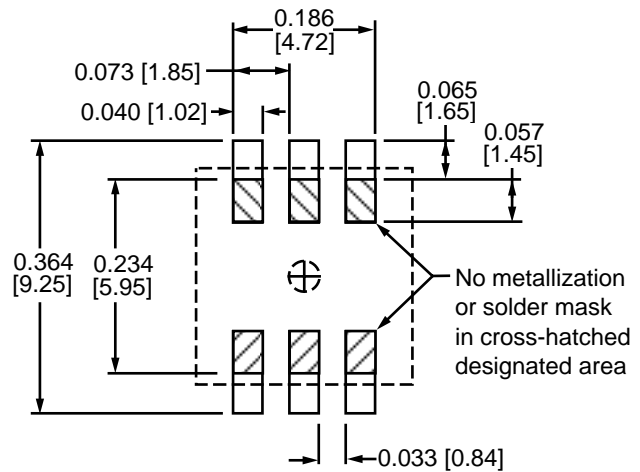
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MECHANICAL



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 μ s; 10 repetitions of alternating polarity, generator output: peak voltage, 25 Ω 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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