Copperhead™ High Speed Dual Transformers



Ruggedized



- Compliant with ANSI X3T111, Fiber Channel,
 FC-PH-3 for quarter/full speed applications, SMPTE, IEEE1394 Firewire
- Moisture Sensitivity: Level 3
- Pick and place compatible
- Peak temperature profile 250°C; NL parts peak temperature is 245°C

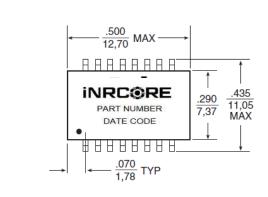
| Electrical Specifications @ 25°C — Operating Temperature -55 C to +125°C | | | | | | | | | | |
|--|----------------------|--------------------------------|-------------------------------|------------------------------|----------------------|----------------------------|--|--|--|--|
| Part Number | Turns Ratio (±5%) | Primary Inductance (µH MIN) | Rise Time 20& to 80% (pS MAX) | DC Resistance $(\Omega$ MAX) | Hi-Pot (Vrms MIN) | Insertion Loss (dB MAX) | Application Nominal Bit Rate (Mbaud) | | | |
| T-330SCT | 1CT:1CT | 26 @ 1Vrms, 100kHz | 350 | 0.2 | 1,500 | -1.5 @ 15-165MHz | 265.6 (1/4 speed) | | | |
| T-531SCT | 1CT:1CT | 7.5@1Vrms, 100kHz | 325 | 0.2 | 1,500 | -2.0 @ 50-265MHz | 531 (half speed) | | | |
| T-1062SCT | 1CT:1CT | 3.75@1Vrms, 100kHz | 280 | 0.2 | 1,500 | -2.0 @ 100-531MHz | 1,062.5 (full speed) | | | |
| T-1250SCT | 1CT:1CT | 3.75@1Vrms, 100kHz | 280 | 0.2 | 1,500 | -2.0@125-650MHz | 1,250 | | | |
| T-1485SCT | 1CT:1CT | 3.75@1Vrms, 100kHz | 270 | 0.2 | 1,500 | -2.0 | 1,485 (SMTPE) | | | |
| T-3200SCT | 1:1 | 0.70 | 200 | 0.2 | 1,500 | -4.5 | 1,485 (SMTPE) | | | |

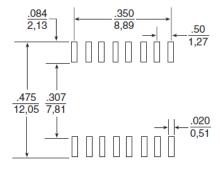
Note: For RoHS compliant parts, add suffix "NL" to the end of part number.

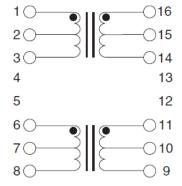
Mechanicals

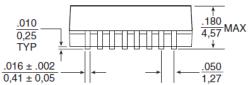
Electrical Schematics

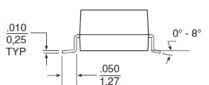
T-330SCT, T-531SCT, T-1062SCT, T-1250SCT, and T-1485SCT

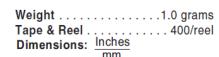












Unless otherwise specified, all tolerances are $\pm .005 \atop 0.13$

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Mechanical **Electrical Schematic** T-3200SCT .073 350 O16 12,70 MAX 500 1,86 8,89 2 15 Ó 0 0 0 0 0 0 Ó AAAAAAAA 30 14 4 13 **INRC@RE** .375 280 .415 .268 9,53 MAX PART NUMBER 5 12 7,11 10.537.37 DATE CODE 60 11 0.00000888888 7 10 .059 1,50 TYP 80 9 Weight . Tape & Reel 600/reel MAX .010 .010 5.97 Dimensions: Inches 0,25 0.25 -0° -8° TYP TYP Unless otherwise specified, $.020 \pm .002$.030 .050 all tolerances are ± .005 0.76 0.51 ± 0.05 T-330SCT T-330SCT 330 ohm TERMINATION or T-1062SCT or T-1062SCT Note #2 Notes #1 TWINAX 150 ohm RY 330 ohm 51 ohm RX TX ± 1% KAUZER 6 330 ohm 51 ohm +5% TX RX 51°0ff 81 ±1%

Fig. 1 - Typical Application Circuit

- 1. The transformer, 51 Ω resistors, and the impedance of the driver are matched to achieve the best return loss (S11) for the transmitter of the 150 Ω system.
- 2. The total impedance of termination resistor network is 150 $\Omega_{\rm c}$
- When laying out PCB, transmission line methods must be utilized to maintain return loss and signal integrity.
 Transformer must be located within .50 of the DB9
- connector.
- 4. It is recommended that the center tap (CT) of transformer(s), cable side, be connected to earth/ chassis (cable shield) ground either directly or via a transient voltage suppressor (TVS) type component and earth/chassis ground should be "AC-coupled" to signal (digital) ground through a 0.27uF, 500v capacitor.

330 ohm

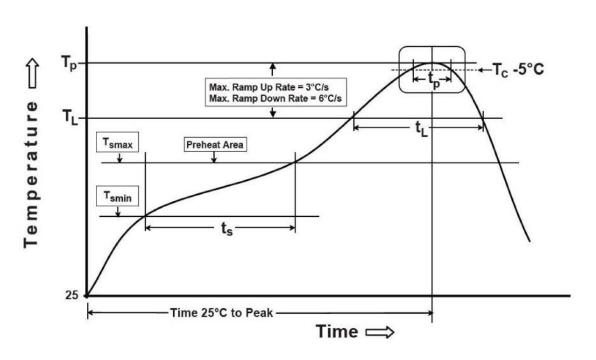


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Non-Lead Recommended Reflow Profile (Based on J-STD-020D)



| T _{SMIN} (°C) | T _{SMAX} (°C) | 100 SEE 100 | T _P (°C MAX) | t _S (s) | t∟ (s) | t _P (s MAX) | Ramp-up rate (T _L to T _P) | Ramp-down rate (T _P to T _L) | Time 25°C to peak temperature (s MAX) |
|------------------------|---------------------------|-------------|----------------------------|-----------------------|-----------|---------------------------|---|---|---|
| 150 | 200 | 217 | 245 | 60-120 | 60-150 | 30 | 3°C/s MAX | 6°C/s MAX | 480 |

Notes:

- All temperatures measured on the package leads.
 Maximum times of reflow cycle: 2.

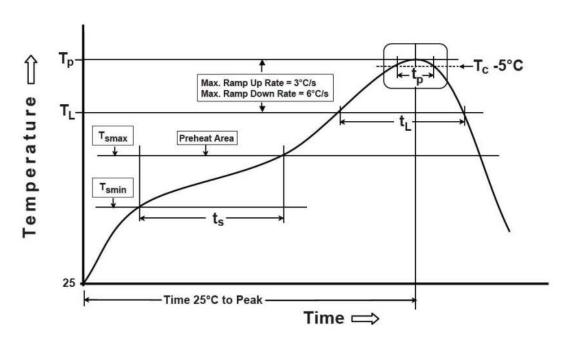


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Tin/Lead Recommended Reflow Profile (Based on J-STD-020D)



| T _{SMIN} (°C) | | | T _P (°C MAX) | t _S | t _L (s) | t _P (s MAX) | Ramp-up rate (T _L to T _P) | Ramp-down rate (T _P to T _L) | Time 25°C to peak temperature (s MAX) |
|------------------------|-----|-----|----------------------------|----------------|--------------------|---------------------------|---|---|---|
| 100 | 150 | 183 | 235 | 60-120 | 60-150 | 20 | 3°C/s MAX | 6°C/s MAX | 360 |

Notes:

- 1. All temperatures measured on the package leads.
- 2. Maximum times of reflow cycle: 2.

For More Information

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http://www.inrcore.com

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