LAN MAGNETICS TEMPERATURE RISE VERSUS DC BIAS

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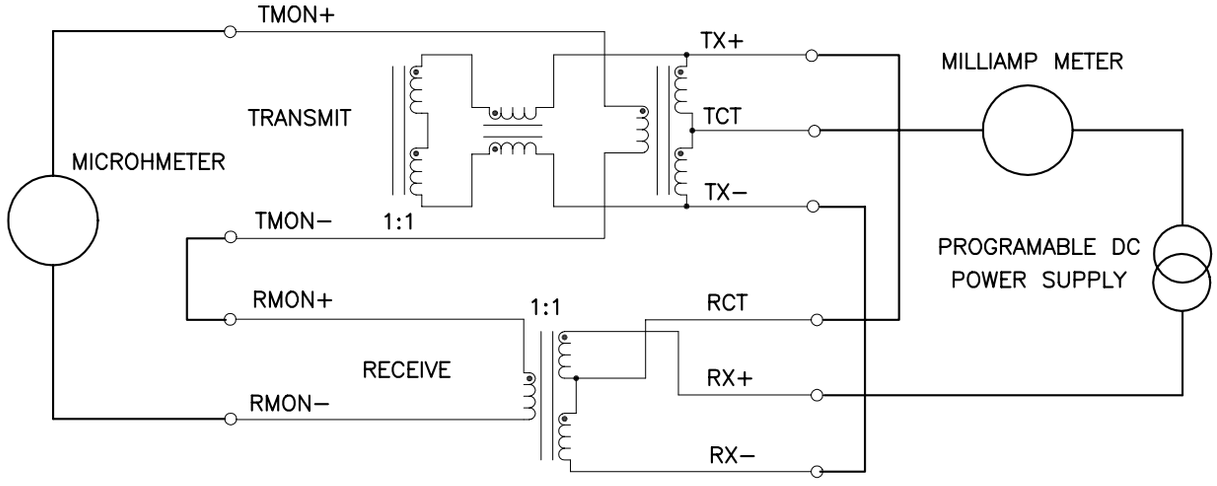
TEST SETUP



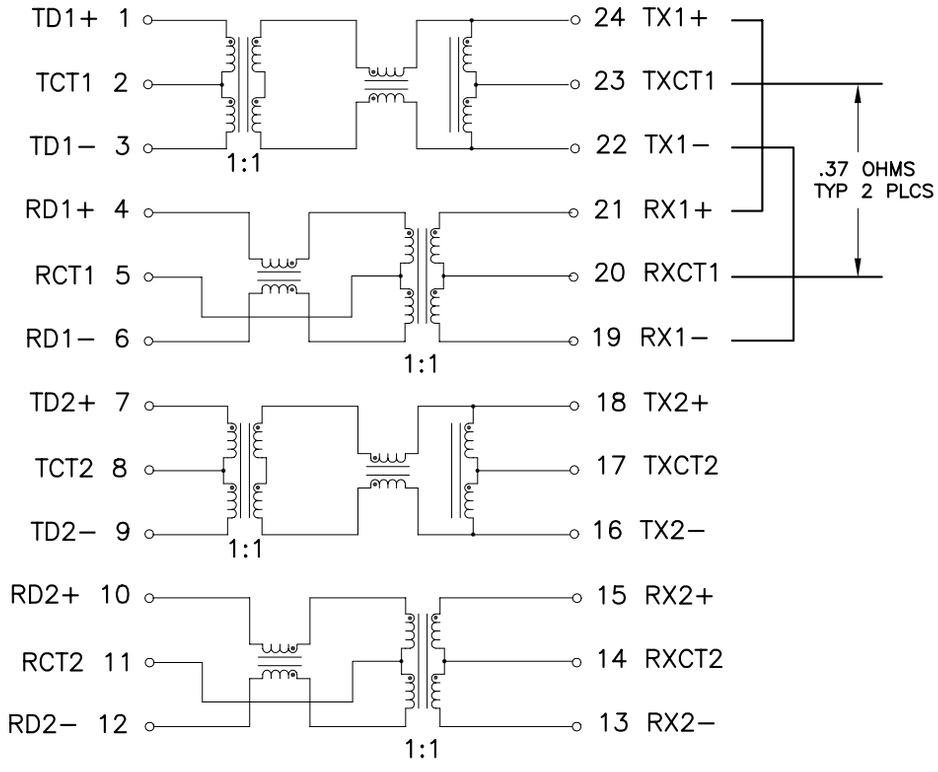
- TEMPERATURE COEFFICIENT OF RESISTANCE IN COPPER WIRE

$$\text{RESISTANCE } (R) = R_{20} * (1.00393 * (T - 20))$$

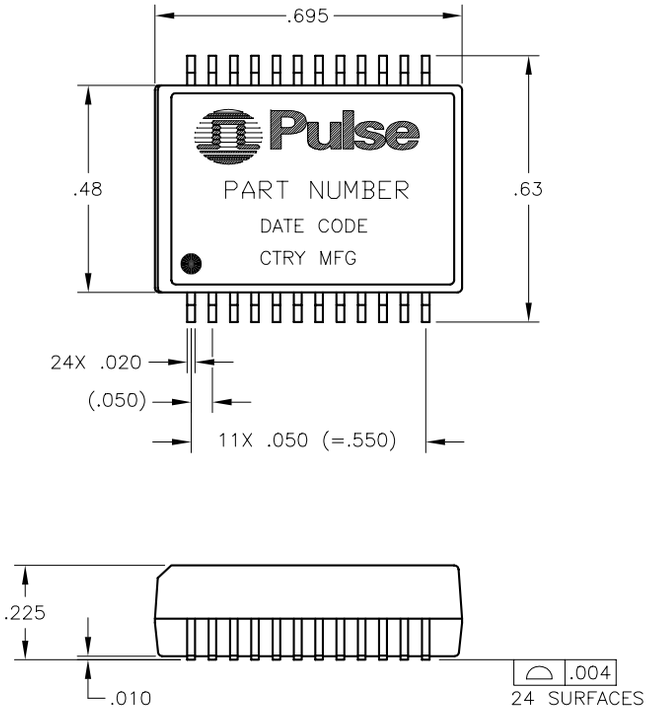
WHERE: T = TEMPERATURE IN °C

R_{20} = RESISTANCE AT 20°C

PACKAGE #18 SCHEMATIC AND DIMENSIONS



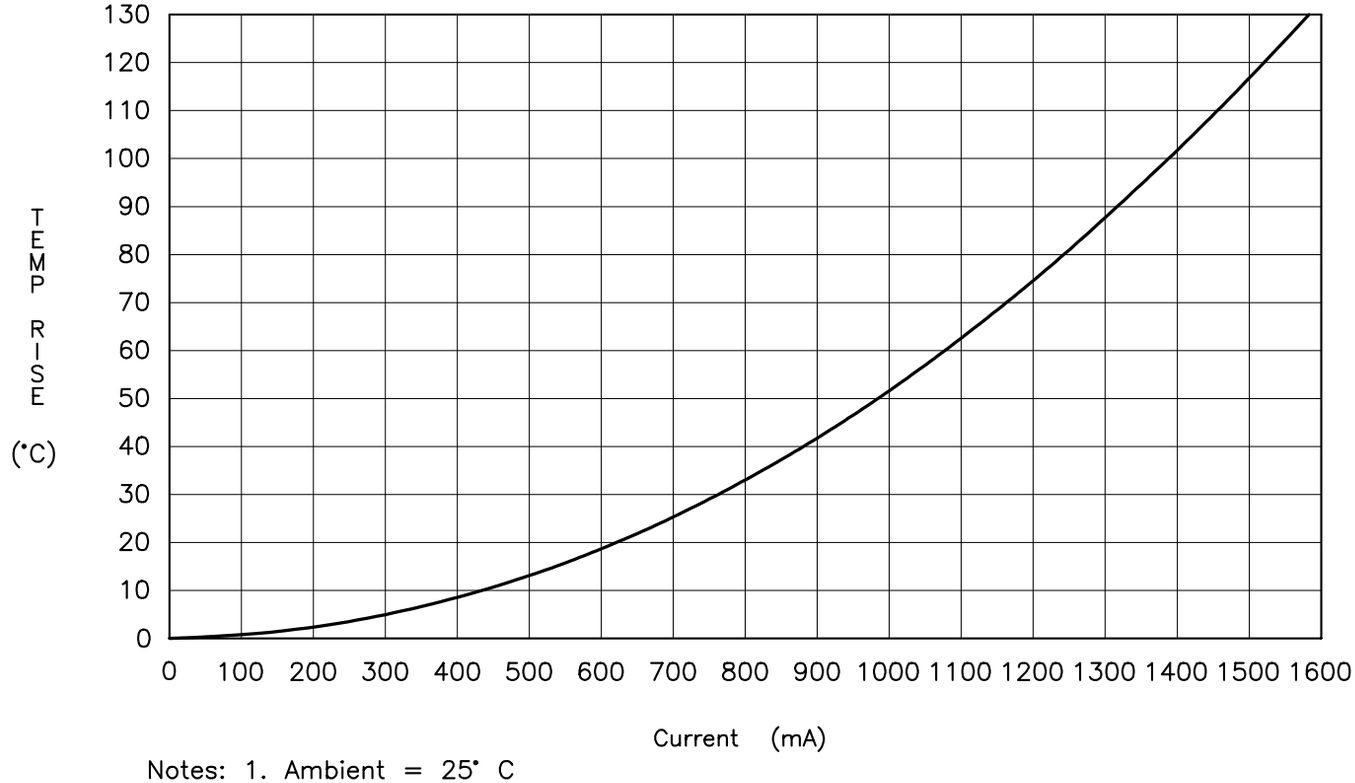
SCHEMATIC



OUTLINE

NOTE: THE RESISTANCE OF EACH TRANSMIT–RECEIVE PAIR REFERENCED TO THE CENTERTAPS IS .37 OHMS.

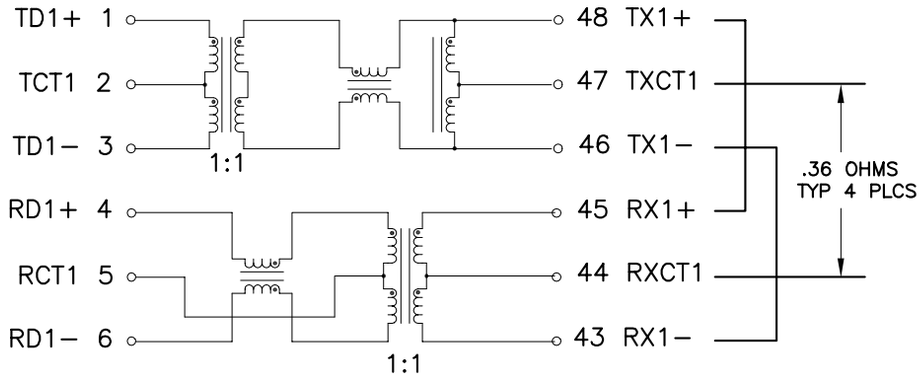
PACKAGE #18 TEMPERATURE RISE VS. PER CHANNEL DC CURRENT



Notes: 1. Ambient = 25° C

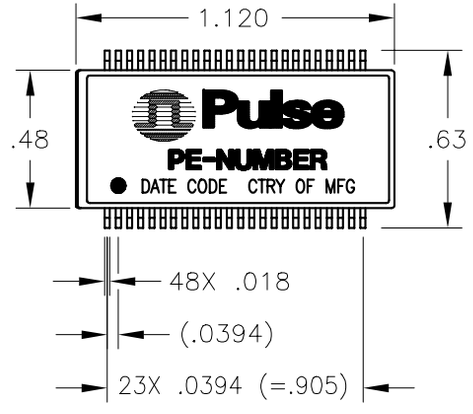
2. Thermal impedance coefficient (°C/I) =
−.015438463−8.4818448*I+37.997837*I^1.5+22.042723*I^2.5

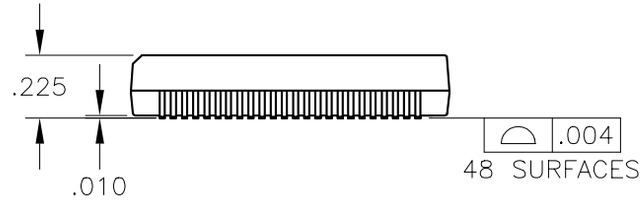
PACKAGE #2 SCHEMATIC AND DIMENSIONS



(TYP 4 PLC'S)
SCHEMATIC

CONNECTION MATRIX												
CHANNEL	TD+	TCT	TD1	RD+	RCT	RD–	TX+	TXCT	TX–	RX+	RXCT	RX–
1	1	2	3	4	5	6	48	47	46	45	44	43
2	7	8	9	10	11	12	42	41	40	39	38	37
3	13	14	15	16	17	18	36	35	34	33	32	31
4	19	20	21	22	23	24	30	29	28	27	26	25





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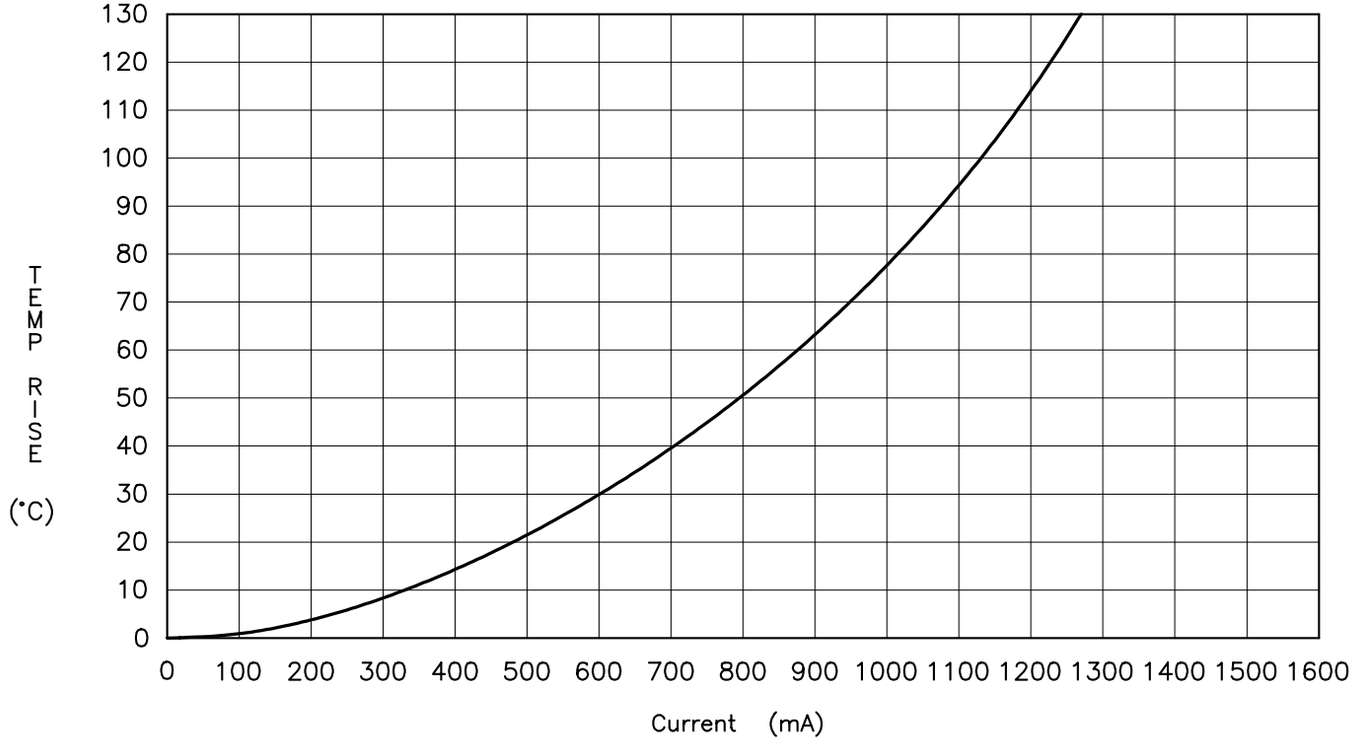
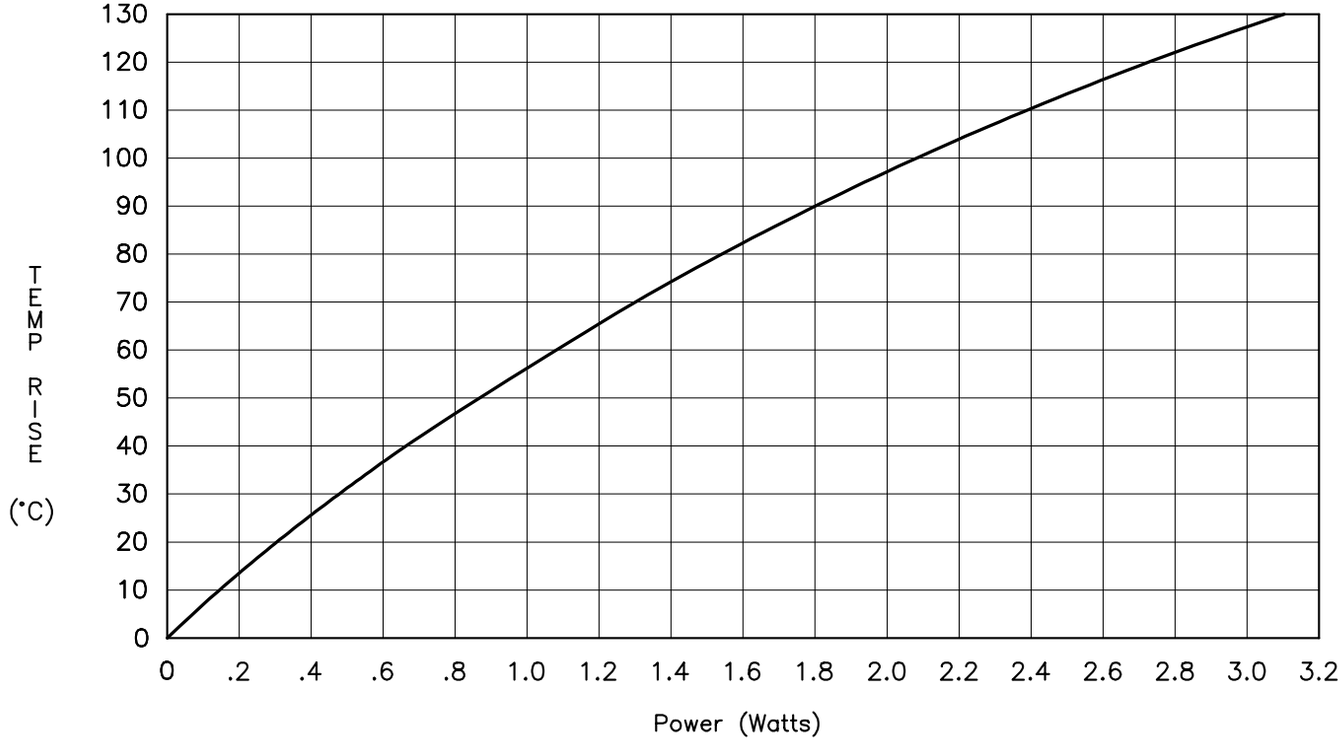


Notes: 1. Ambient = 25° C

2. Thermal impedance coefficient of case (°C/W) =
−1.5193262+42.047199*Watt−7.6769291*Watt^1.5+13.489464*Watt^.5

TEMPERATURE RISE VS. POWER DISSIPATED



Notes: 1. Ambient = 25° C

2. Thermal impedance coefficient (°C/W) =
−.069792448+75.167502*Watt−19.104698*Watt^1.5+.81272542*Watt^.5

LAN MAGNETICS TEMPERATURE RISE VERSUS DC BIAS

SUMMARY

- 10/100 style magnetic circuits are capable of supporting 350 mA DC bias with minimal temperature rise.