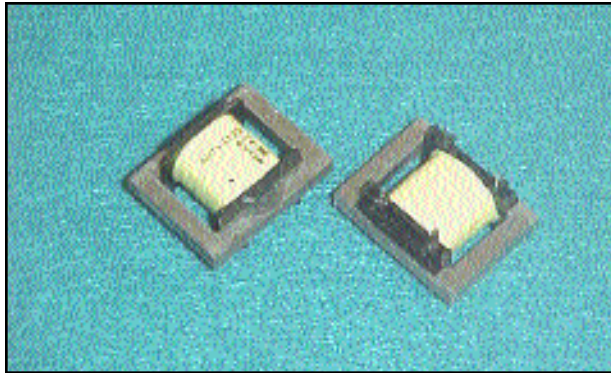


Analog Telephony / Modem Couplers



FEATURES

- Suitable for modem speeds up to V.90 (56 kbps).
- Total Harmonic Distortion rated -88 dB typ. @ 600 Hz, -10 dBm and -83 dB typ. @ 150 Hz, -3 dBm.
- Insertion Loss rated 2.70 dB typ. @ 1000 Hz.
- Complies with IEC60950 Supplementary safety norms.
- Matches 600 Ohm and complex impedance telephone lines.
- Uses minimal external components for impedance matching for pan-European CTR21 lines.
- Reflects 600 Ohms on Primary with 301 Ohms Secondary Load to match 600-ohm lines (external components recommended, but optional).
- Small PCB footprint (20.3 mm x 26.0 mm).
- Low-Profile (12.2 mm).
- Industry-standard pin configuration.

DESCRIPTION

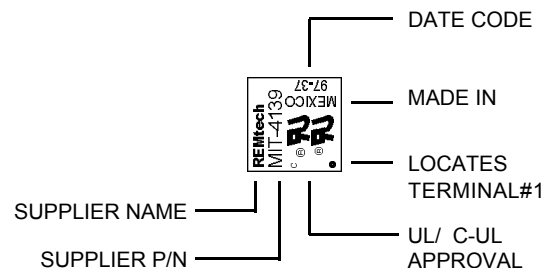
The REMtech Magnetics MIT-4139 is a "Dry" Modem Isolation Transformer suitable for up to V.90 (56 kbps) consumer and internet analog modem applications compliant with Worldwide safety norms.

MIT-4139 can serve as a "drop-in" replacement for MIT-3139 to meet upcoming IEC60950 Supplementary worldwide safety on 600-Ohm lines. For award-winning 56K performance, see also MIT-4262 (MIT-4139 can be upgraded). MIT-4139 impedance match suits Lucent-based modems.

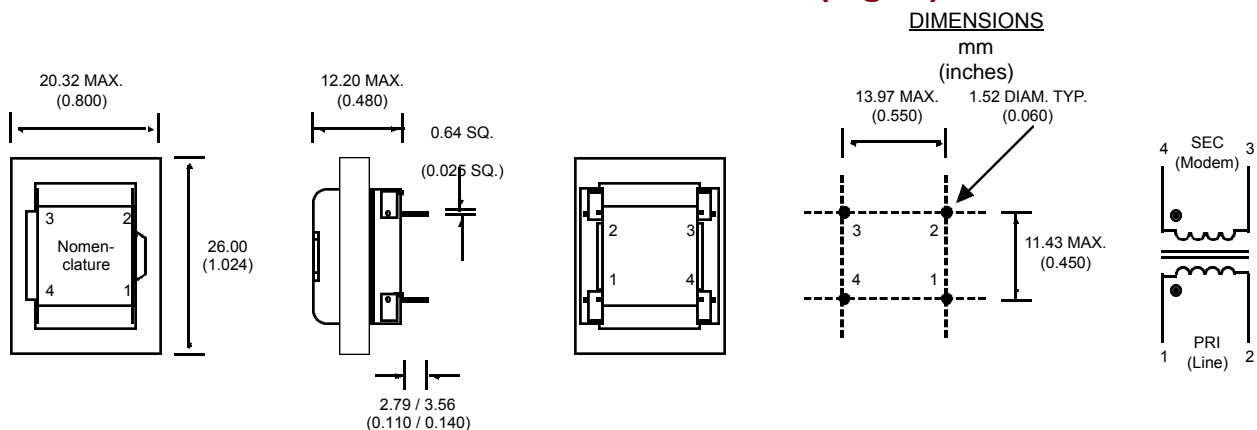
PRODUCT COMPLIANCE

- UL / C-UL recognized file number: E171120
- BSI certificate number(s): 8047,8048
- BABT certificate of recognition: 1905

NOMENCLATURE (Fig. 1)



MECHANICAL DIMENSIONS (Fig. 2)



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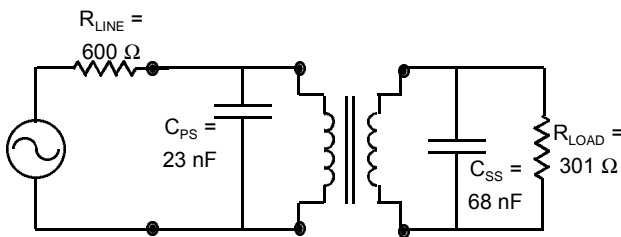
Analog Telephony / Modem Couplers

ELECTRICAL PERFORMANCE SPECIFICATIONS

Electrical Performance Specifications (T_A = 25 °C unless otherwise specified)

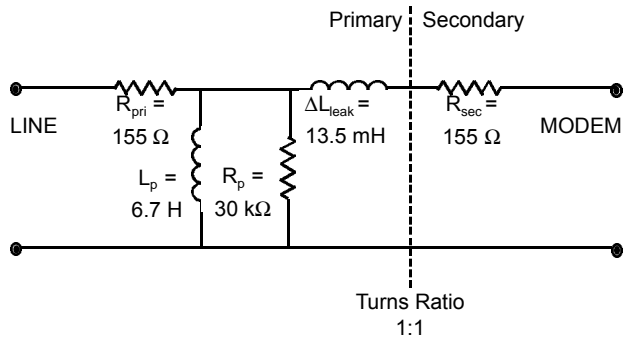
PARAMETERS	CONDITIONS	MIN	TYP	MAX	UNITS
Impedance	Reflected on Primary With Load on Secondary	-	600	-	Ohms
		-	301	-	Ohms
Total Harmonic Distortion	@ 600 Hz, -10 dBm @ 150 Hz, -3 dBm	-	-88	-82	dB
		-	-83	-75	dB
Insertion Loss	Per IEEE method; @ 1000 Hz	-	2.70	3.30	dB
Return Loss	200 Hz - 4000 Hz Per 600 Ohm Match (Fig. 3) Per CTR21 Pan-Euro Match (Fig. 10)	22	-	-	dB
		22	-	-	dB
Dielectric Breakdown Isolation Production methods applied:	Safety Standard tested 1 Min.	1500	-	-	Vrms
	HiPot Voltage	1875	-	-	Vrms
	Duration	2	-	-	Sec
	Trip Leakage Current	-	-	200	μA
Frequency Response	200 Hz - 4000 Hz	-	±0.25	-	dB
Longitudinal Balance	Per FCC part 68.310 60 Hz - 1000 Hz 1000 Hz - 4000 Hz	60	-	-	dB
		40	-	-	dB
DC Resistance @ 20°C, ±10%	Primary Winding Secondary Winding	-	155	-	Ohms
		-	155	-	Ohms
DC Current in Primary	-	-	0	-	mADC
Turns Ratio	Primary to Secondary; ±2%	-	1:1	-	Turns
Operating Temperature	-	-40	-	105	°C
Storage Temperature	-	-40	-	125	°C
Soldering Temperature	10 Sec. Max.	-	-	260	°C

600 OHM MATCH (Fig. 3)



SCHEMATIC EQUIVALENT (Fig. 4)

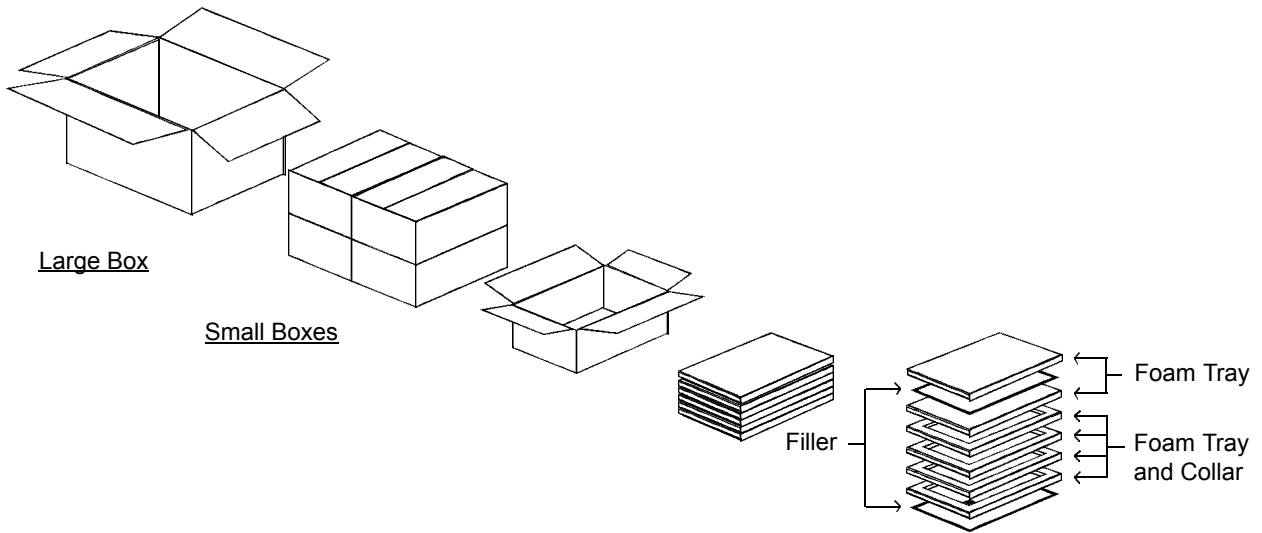
(Typical Transformer Model @ 1 V, 1 kHz)



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STANDARD PACKAGING (Fig. 9)

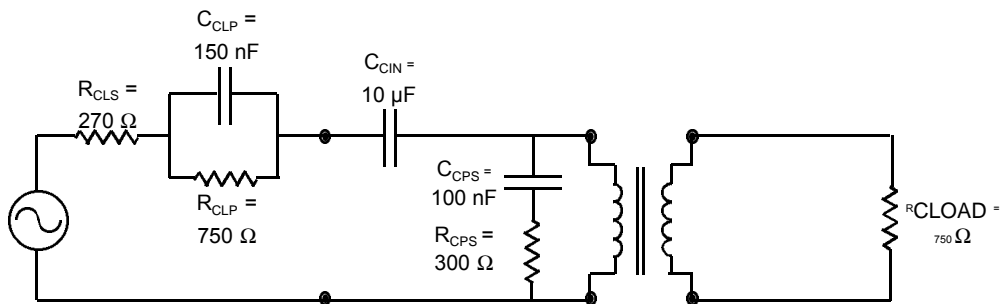


Packaging

Material	Contents	#Transformers
Large Box	4 Small Boxes	1280
Small Box	4 Trays	320
Tray	80 Transformers	80
---	Transformer	1

PAN-EUROPEAN CTR21 MATCH (Fig. 10)

(Application circuits available on request for specific national match requirements.)

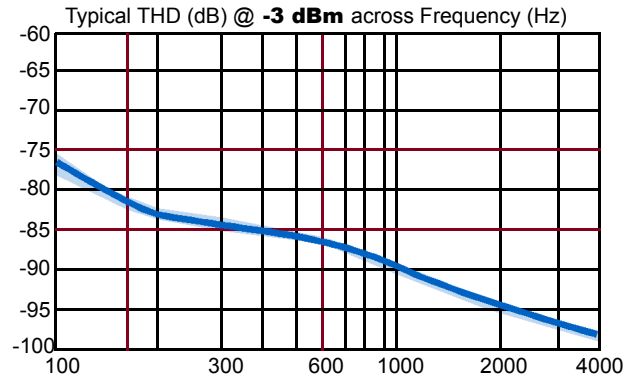
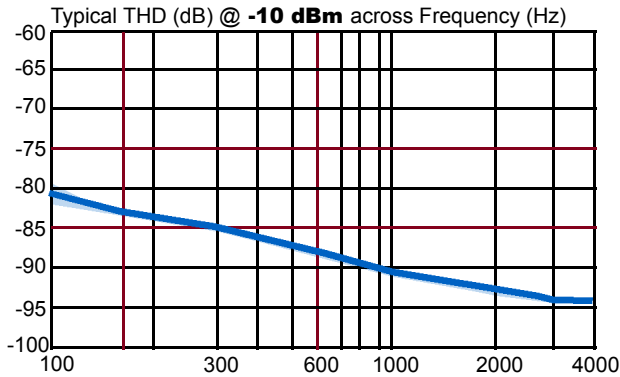


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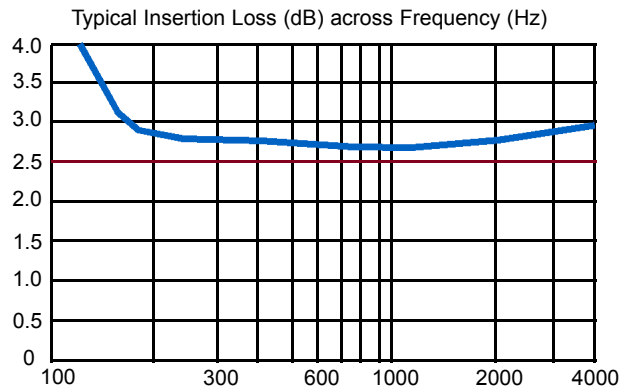
Analog Telephony / Modem Couplers

PERFORMANCE DATA

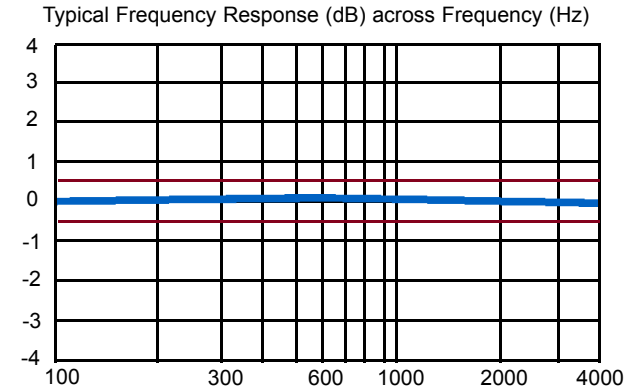
TOTAL HARMONIC DISTORTION (Fig. 5)



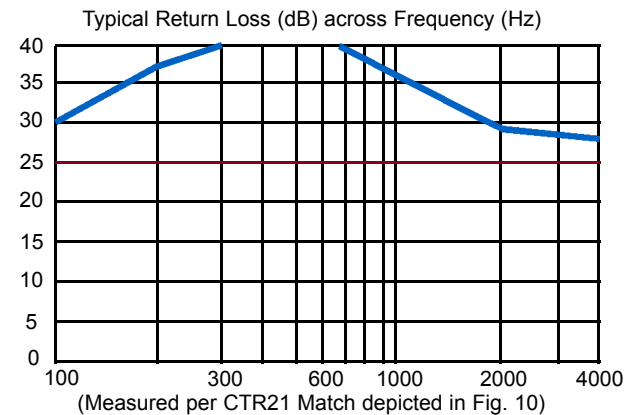
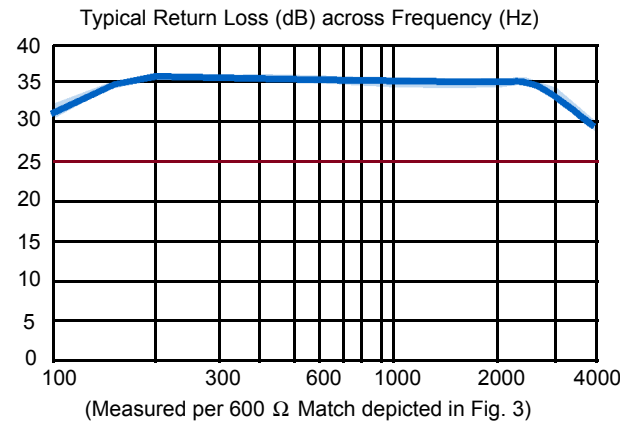
INSERTION LOSS (Fig. 6)



FREQUENCY RESPONSE (Fig. 7)



RETURN LOSS (Fig. 8)

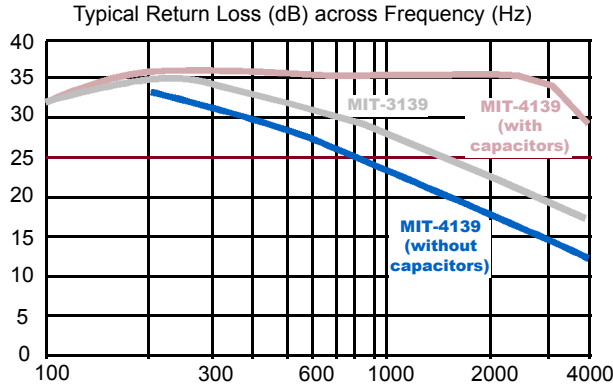


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ADDITIONAL DATA

RETURN LOSS (Fig. 8)



Customers may expect to use MIT-4139 as a “drop-in” upgrade to MIT-3139 in order to meet upcoming IEC60950 Supplementary worldwide safety standards. In Europe this standard is known as EN60950 Supplementary. In the US, this standard is known as UL1950, and it applies to all new system models introduced as of April 1, 2000. (Previous models continue to 2004.)

MIT-3139 boards typically will not include the extra capacitors recommended for best Return Loss results with MIT-4139, as depicted by the 600 Ohm Match (Fig. 3) circuit model.

Return Loss results depicted (to the left in blue) can be achieved according to the 600 Ohm Match circuit model shown. (This circuit model is identical to that indicated with the MIT-3139 specification.)

Other electrical specifications are nearly identical when comparing MIT-3139 to MIT-4139.

