

Analog Telephony / Modem Couplers



FEATURES

- Suitable for modem speeds up to V.90 (56 kbps).
- Total Harmonic Distortion rated -93 dB typ. @ 600 Hz, -10 dBm and -70 dB typ. @ 150 Hz, -3 dBm.
- Insertion Loss rated 1.20 dB typ. @ 2000 Hz.
- Complies with IEC60950 Reinforced safety norms.
- Matches 600 Ohm and complex impedance telephone lines.
- Uses minimal external components for impedance matching.
- Very small PCB footprint (18.3 mm x 18.3 mm).
- Low-Profile (12.6 mm).
- Industry-standard pin configuration.

DESCRIPTION

The REMtech Magnetics EMIT-2020L is a “Dry” Encapsulated Modem Isolation Transformer suitable for up to V.90 (56 kbps) consumer and internet analog modem applications compliant with International safety norms.

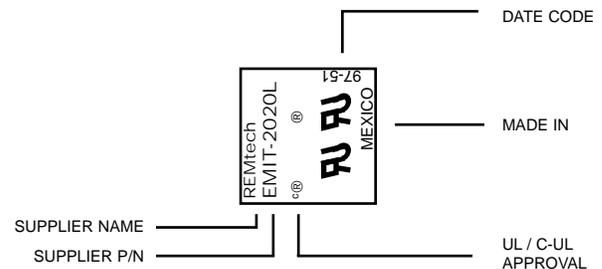
EMIT-2020L provides a simple “drop-in” migration from couplers like EMIT-2001L (or EMIT-2001) on V.34 (33.6 kbps) board conversions to V.90 (56 kbps).

EMIT-2020L improves EMIT-2020 to a Low-Profile height with identical characteristics and cost.

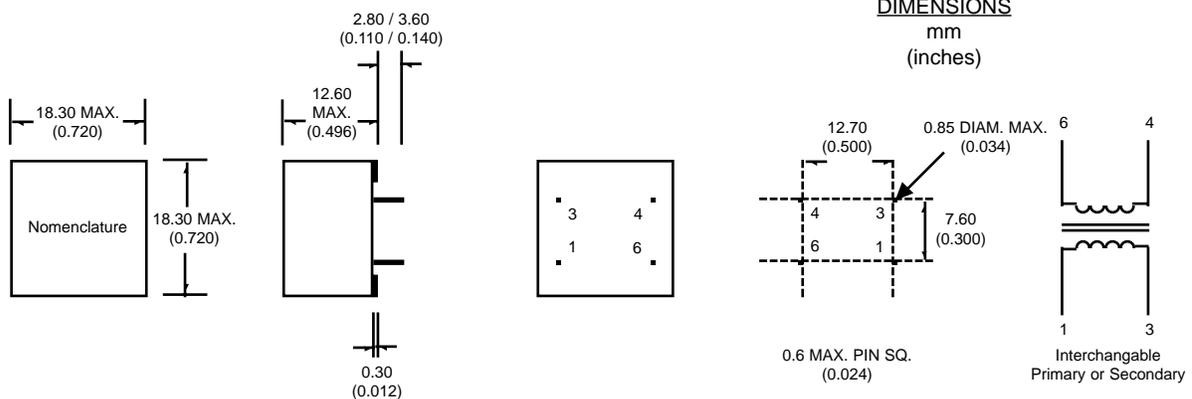
PRODUCT COMPLIANCE

- 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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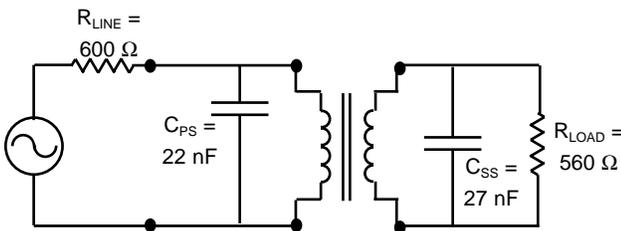
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ELECTRICAL PERFORMANCE SPECIFICATIONS

Electrical Performance Specifications ( $T_A = 25^\circ\text{C}$  unless otherwise specified)

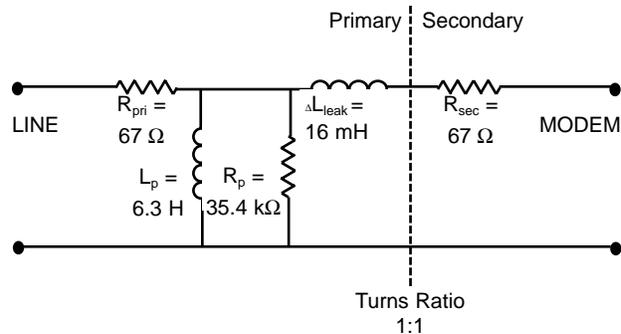
PARAMETERS	CONDITIONS	MIN	TYP	MAX	UNITS
Impedance	Reflected on Primary With Load on Secondary	-	600	-	Ohms
		-	560	-	Ohms
Total Harmonic Distortion	@ 600 Hz, -10 dBm @ 150 Hz, -3 dBm	-	-93	-85	dB
		-	-70	-60	dB
Insertion Loss	Per IEEE method; @ 2000 Hz	-	1.20	1.50	dB
Return Loss	200 Hz - 4000 Hz Per 600 Ohm Match (Fig. 3) Per CTR21 Pan-Euro Match (Fig. 10)	18	-	-	dB
		22	-	-	dB
Dielectric Breakdown Isolation Production methods applied:	Safety Standard tested 1 Min.	3000	-	-	Vrms
	HiPot Voltage	3750	-	-	Vrms
	Duration	2	-	-	Sec
	Trip Leakage Current	-	-	200	$\mu\text{A}$
Frequency Response	200 Hz - 4000 Hz	-	$\pm 0.50$	-	dB
Longitudinal Balance	Per FCC part 68.310 60 Hz - 1000 Hz 1000 Hz - 4000 Hz	60	-	-	dB
		40	-	-	dB
DC Resistance @ $20^\circ\text{C}$ , $\pm 10\%$	Primary Winding Secondary Winding	-	67	-	Ohms
		-	67	-	Ohms
DC Current in Primary	-	-	0	-	mADC
Turns Ratio	Primary to Secondary; $\pm 2\%$	-	1:1	-	Turns
Operating Temperature	-	-40	-	105	$^\circ\text{C}$
Storage Temperature	-	-40	-	125	$^\circ\text{C}$
Soldering Temperature	10 Sec. Max.	-	-	260	$^\circ\text{C}$

600 OHM MATCH (Fig. 3)



SCHEMATIC EQUIVALENT (Fig. 4)

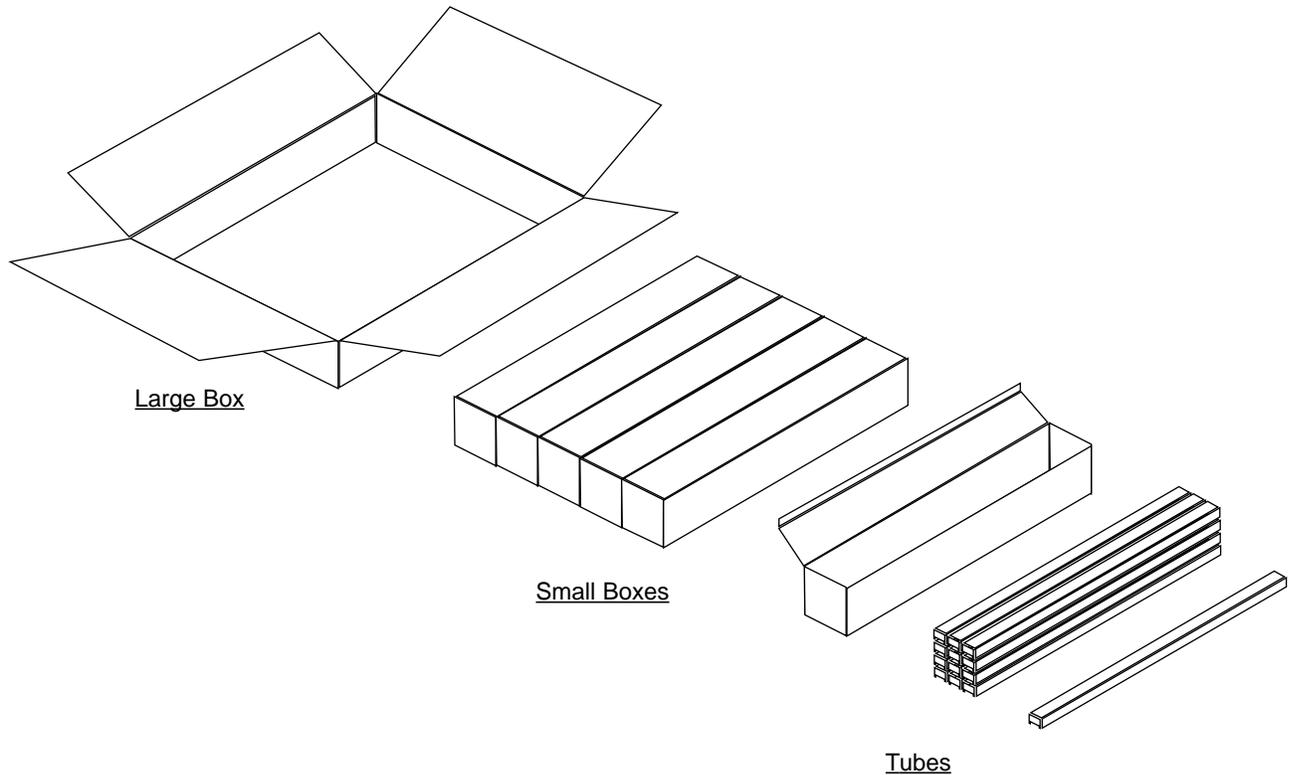
(Typical Transformer Model @ 1 V, 1 kHz)



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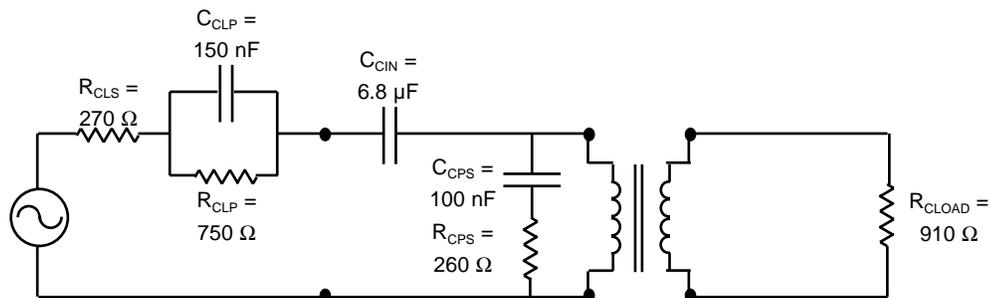
STANDARD PACKAGING (Fig. 9)



Material	Contents	#Transformers
Large Box	5 Small Boxes	1500
Small Box	12 Tubes	300
Tube	25 Transformers	25
---	Transformer	1

PAN-EUROPEAN CTR21 MATCH (Fig. 10)

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

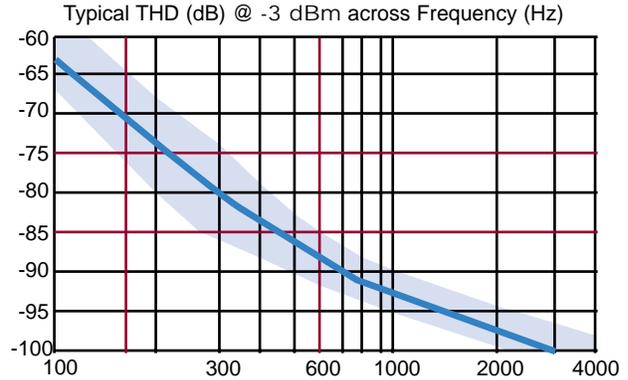
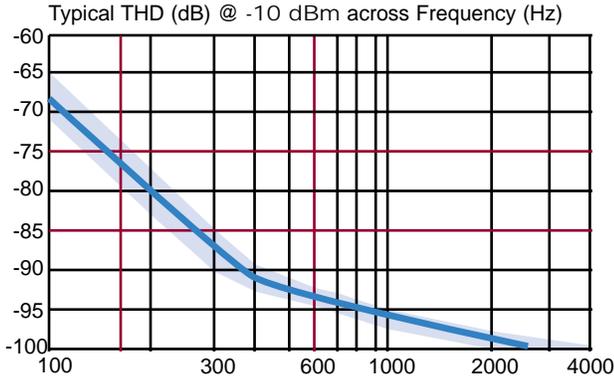


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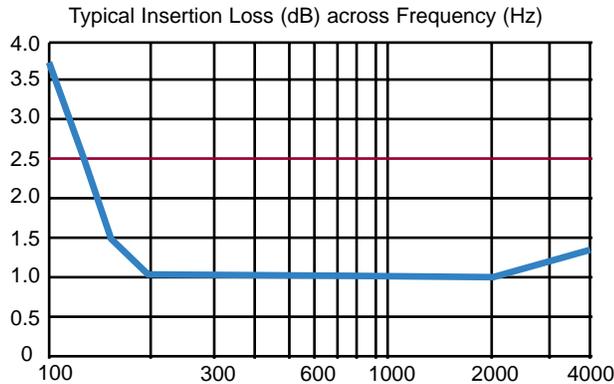
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PERFORMANCE DATA

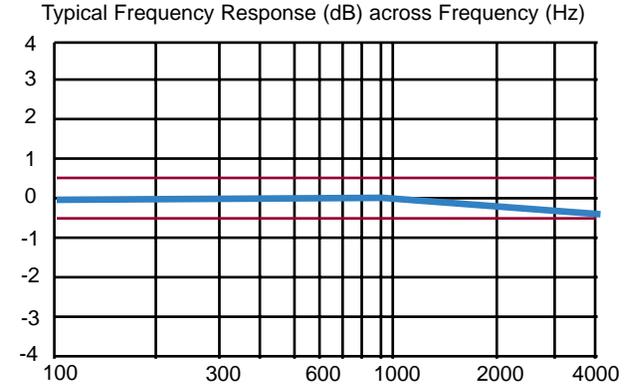
TOTAL HARMONIC DISTORTION (Fig. 5)



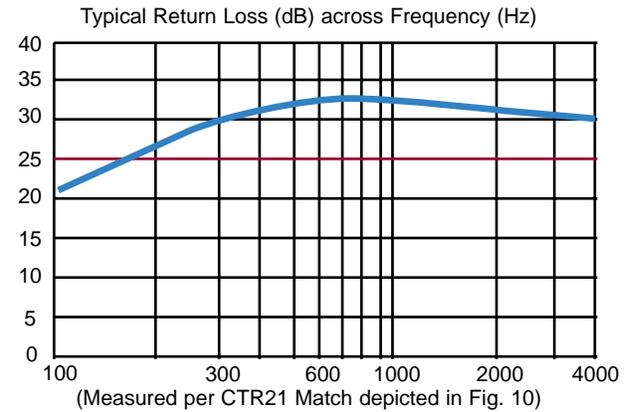
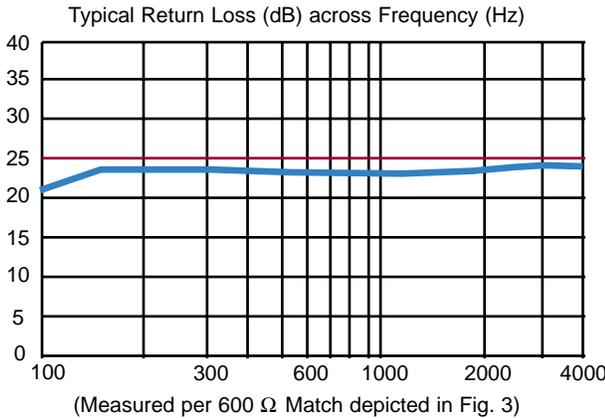
INSERTION LOSS (Fig. 6)



FREQUENCY RESPONSE (Fig. 7)



RETURN LOSS (Fig. 8)



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