

### FEATURES

- Suitable for modem speeds up to V.90 (56 kbps).
- Total Harmonic Distortion rated -90 dB typ. @ 600 Hz, -10 dBm and -84 dB typ. @ 150 Hz, -3 dBm.
- Insertion Loss rated 2.60 dB typ. @ 1000 Hz.
- Complies with UL1459 safety norms.
- Reflects 600 Ohms on Primary with 301 Ohms Secondary Load.
- Small PCB footprint (20.3 mm x 26.0 mm).
- Low-Profile (12.2 mm).
- Industry-standard pin configuration.

### DESCRIPTION

The REMtech Magnetics MIT-3139 is a “Dry” Modem Isolation Transformer suitable for up to V.90 (56 kbps) consumer and internet analog modem applications compliant with Domestic safety norms.

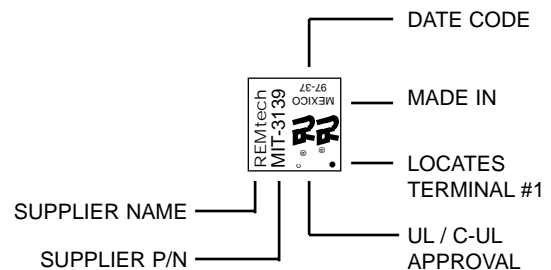
MIT-3139 replaces MIT-139, MIT-179, and even MIT-2139 to achieve lower costs yet similar electrical characteristics, with impedance match for Lucent-based modem designs.

MIT-4139 is a simple “drop-in” upgrade of MIT-3139 to meet upcoming IEC60950 Supplementary worldwide safety.

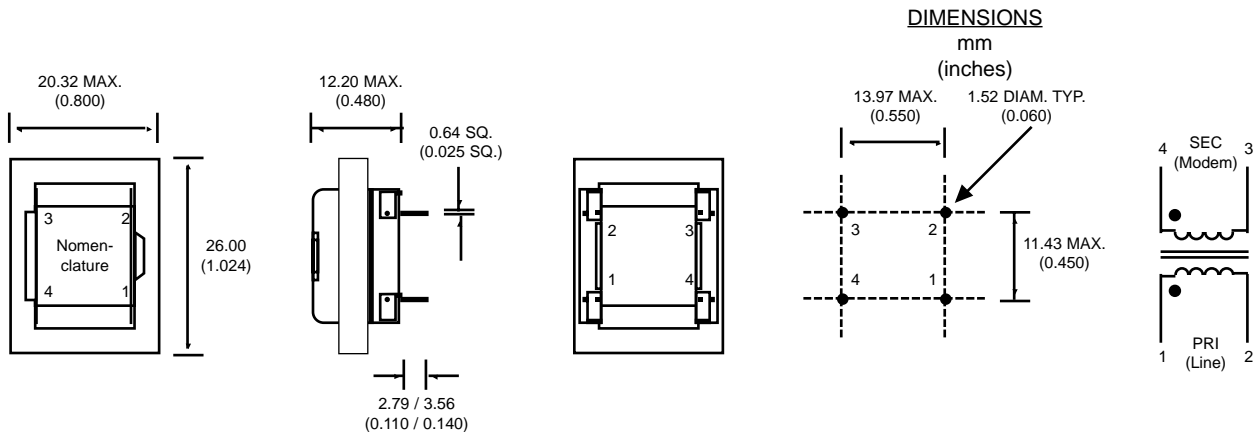
### PRODUCT COMPLIANCE

- UL / C-UL recognized file number: E171120

### NOMENCLATURE (Fig. 1)



### MECHANICAL DIMENSIONS (Fig. 2)



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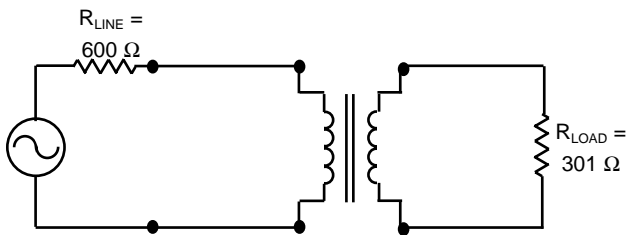
Analog Telephony / Modem Couplers

ELECTRICAL PERFORMANCE SPECIFICATIONS

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

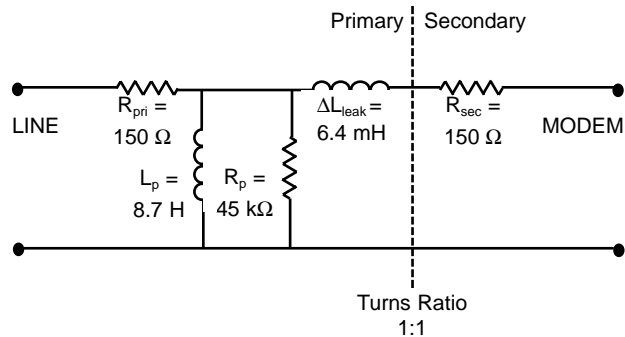
PARAMETERS	CONDITIONS	MIN	TYP	MAX	UNITS
Impedance	Reflected on Primary With Load on Secondary	-	600	-	Ohms
		-	301	-	Ohms
Total Harmonic Distortion	@ 600 Hz, -10 dBm @ 150 Hz, -3 dBm	-	-90	-82	dB
		-	-84	-75	dB
Insertion Loss	Per IEEE method; @ 1000 Hz	-	2.60	3.00	dB
Return Loss	200 Hz - 3000 Hz Per 600 Ohm Match (Fig. 3)	18	-	-	dB
Dielectric Breakdown Isolation Production methods applied:	Safety Standard tested 1 Min. HiPot Voltage Duration Trip Leakage Current	1000	-	-	Vrms
		1250	-	-	Vrms
		2	-	-	Sec
		-	-	200	$\mu\text{A}$
Frequency Response	200 Hz - 4000 Hz	-	$\pm 0.25$	-	dB
Longitudinal Balance	Per FCC part 68.310 60 Hz - 1000 Hz 1000 Hz - 4000 Hz	60	-	-	dB
		40	-	-	dB
DC Resistance @ $20^\circ\text{C}$ , $\pm 10\%$	Primary Winding Secondary Winding	-	150	-	Ohms
		-	150	-	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)

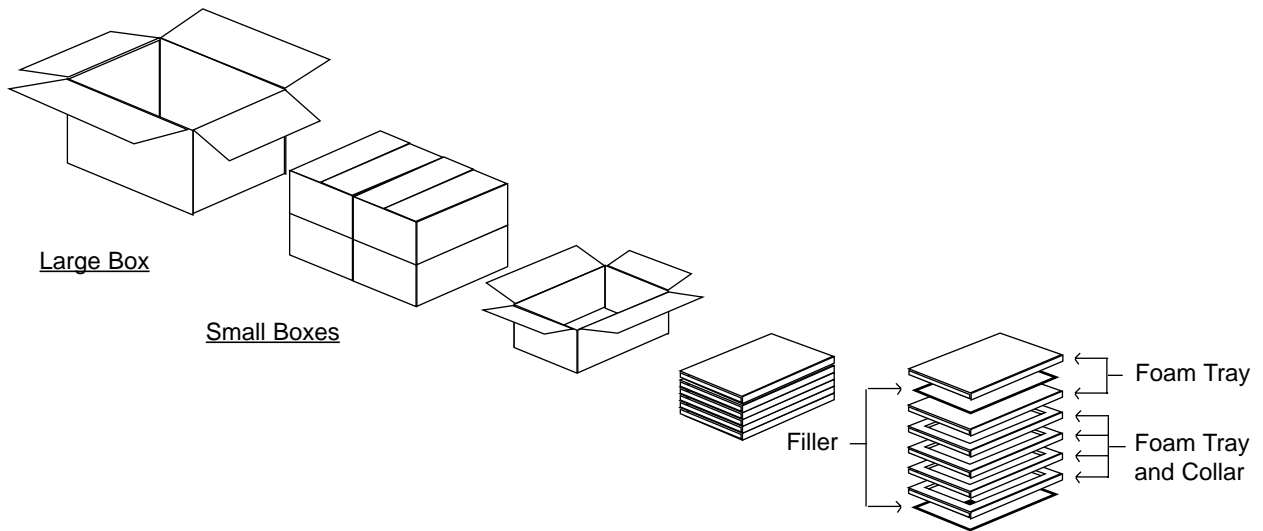
(Typical Transformer Model @ 1 V, 1 kHz)



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STANDARD PACKAGING (Fig. 9)



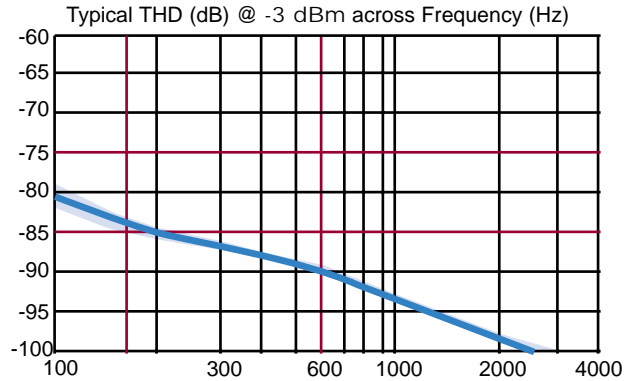
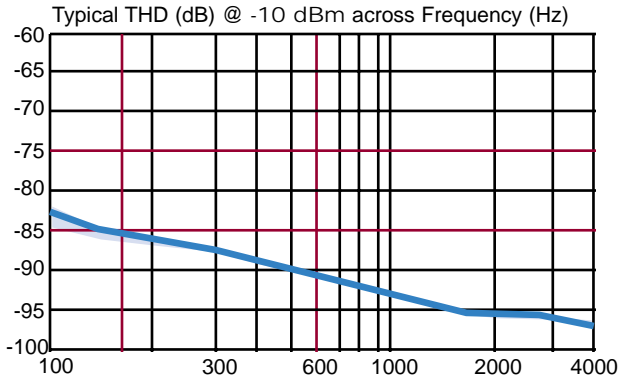
Packaging

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

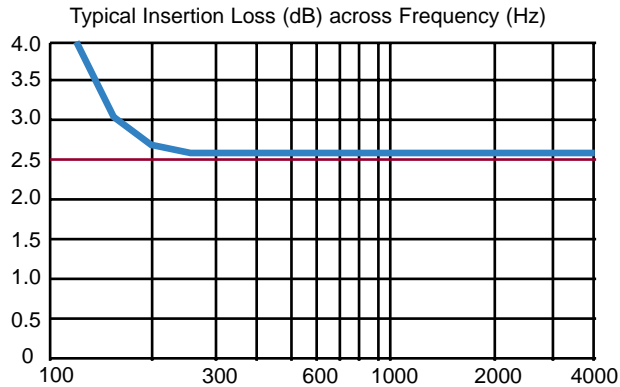
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PERFORMANCE DATA

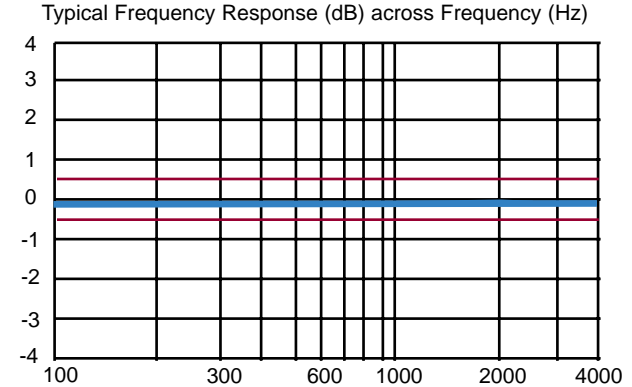
TOTAL HARMONIC DISTORTION (Fig. 5)



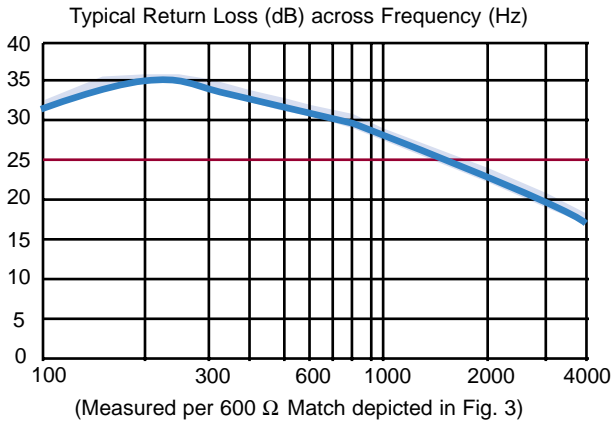
INSERTION LOSS (Fig. 6)



FREQUENCY RESPONSE (Fig. 7)



RETURN LOSS (Fig. 8)



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