

DESCRIPTION

The REMtech Magnetics MIT-139 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.

For future designs, see MIT-3139 which offers improved performance and much lower cost.

Often, MIT-3139 can also serve existing MIT-139 applications as a lower-cost “drop-in” replacement.

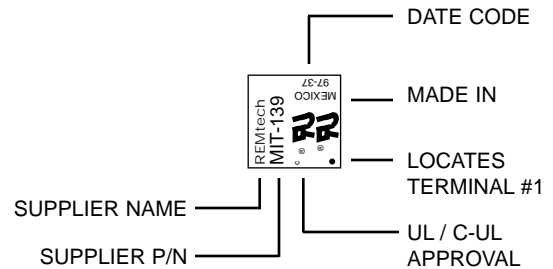
FEATURES

- Suitable for modem speeds up to V.90 (56 kbps).
- Total Harmonic Distortion rated -94 dB typ. @ 600 Hz, -10 dBm and -81 dB typ. @ 150 Hz, -3 dBm.
- Insertion Loss rated 2.55 dB typ. @ 1000 Hz.
- Complies with UL1459 safety norms.
- Reflects 600 Ohms on Primary with 301 Ohms Secondary Load.
- Small PCB footprint (24.0 mm x 26.0 mm).
- Low-Profile (12.0 mm).
- Industry-standard pin configuration.

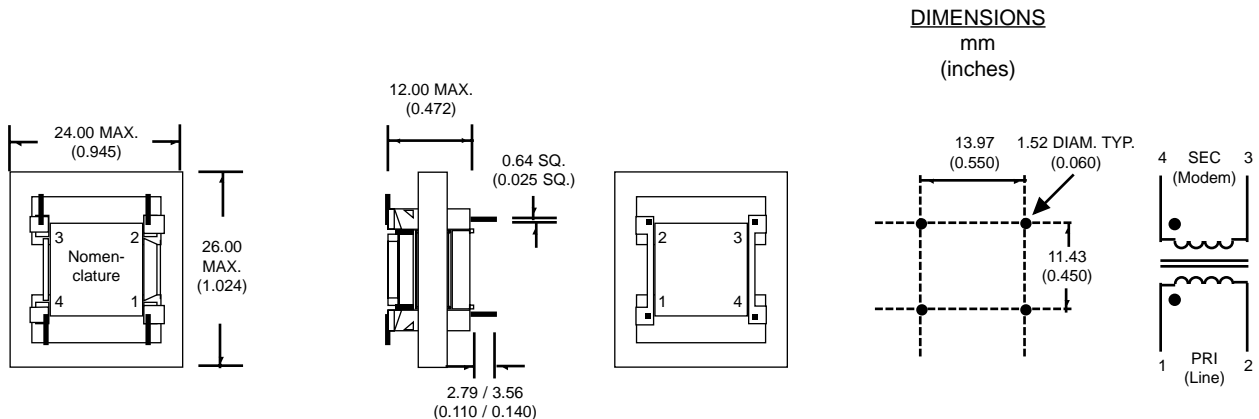
PRODUCT COMPLIANCE

- UL / C-UL recognized file number: E171120

NOMENCLATURE (Fig. 1)



MECHANICAL DIMENSIONS (Fig. 2)



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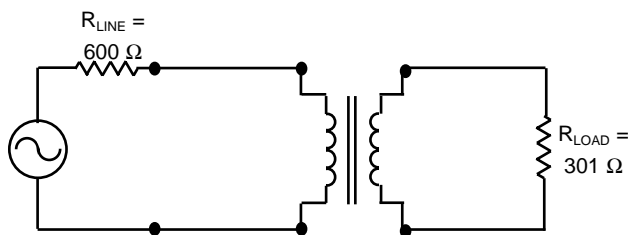
Analog Telephony / Modem Couplers

ELECTRICAL PERFORMANCE SPECIFICATIONS

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

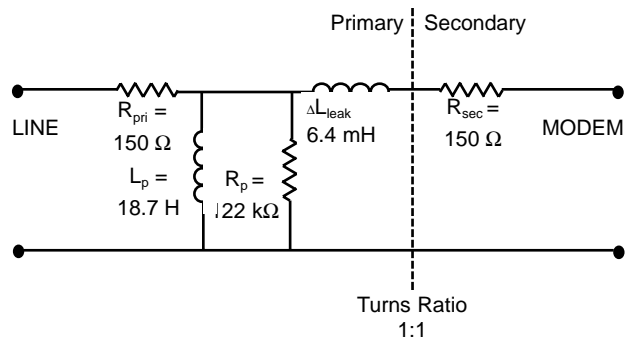
PARAMETERS	CONDITIONS	MIN	TYP	MAX	UNITS
Impedance	Reflected on Primary With Load on Secondary	-	600	-	Ohms
		-	374	-	Ohms
Total Harmonic Distortion	@ 600 Hz, -10 dBm @ 150 Hz, -3 dBm	-	-94	-86	dB
		-	-81	-75	dB
Insertion Loss	Per IEEE method; @ 1000 Hz	-	2.55	3.00	dB
Return Loss	200 Hz - 4000 Hz Per 600 Ohm Match (Fig. 3)	17	-	-	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	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 , $\pm 10\%$	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)

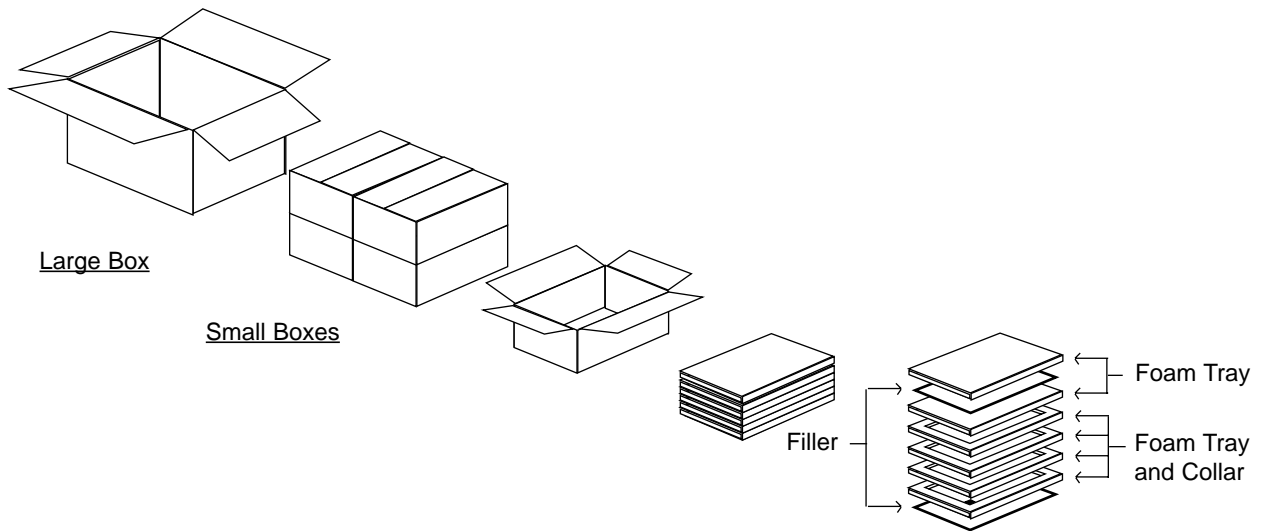
(Typical Transformer Model @ 1 V, 1 kHz)



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STANDARD PACKAGING (Fig. 9)

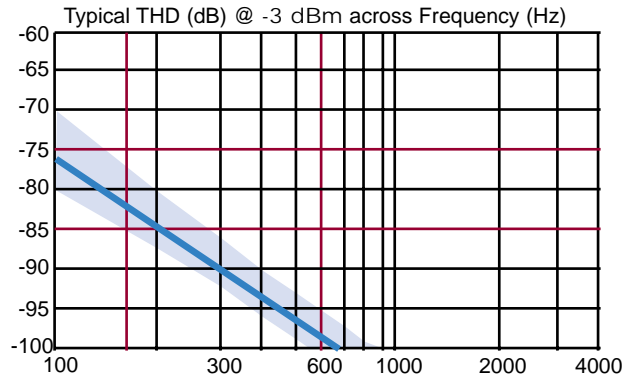
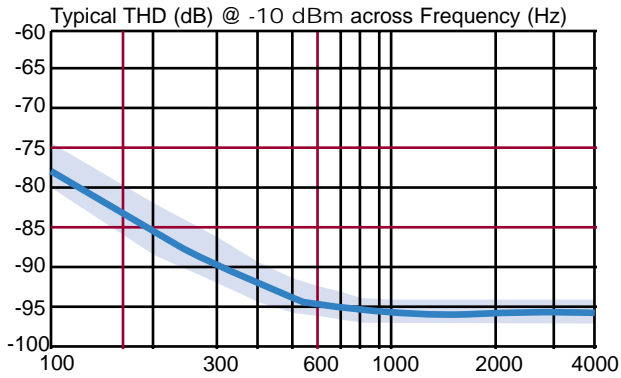


Packaging

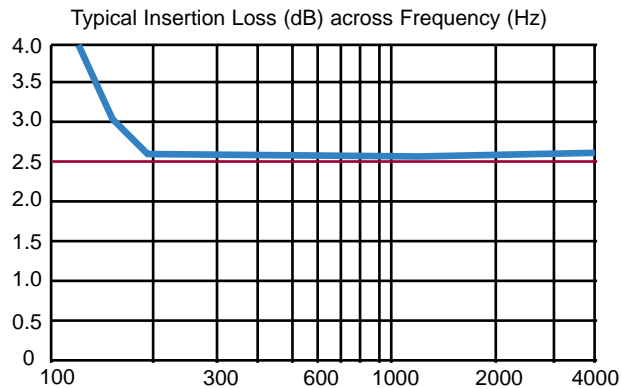
Material	Contents	#Transformers
Large Box	4 Small Boxes	1280
Small Box	4 Trays	320
Tray	80 Transformers	80
---	Transformer	1

PERFORMANCE DATA

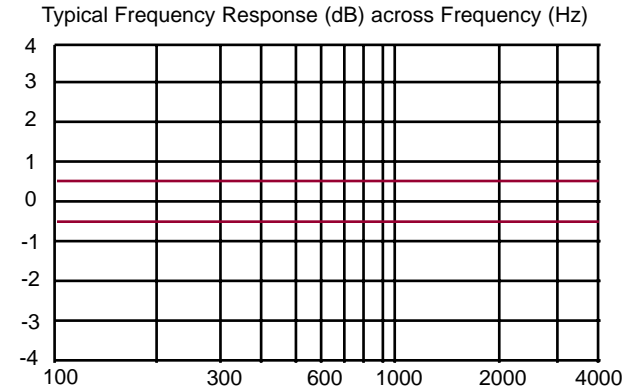
TOTAL HARMONIC DISTORTION (Fig. 5)



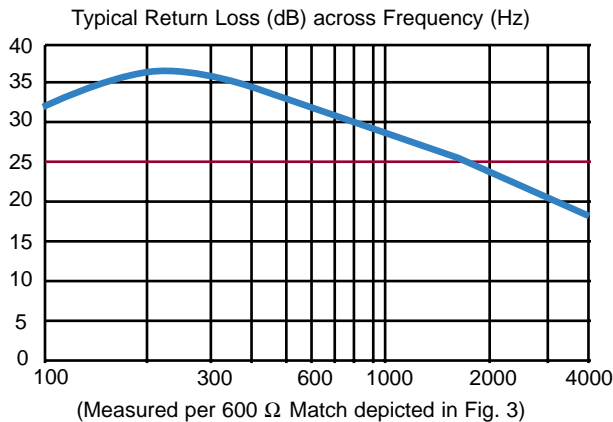
INSERTION LOSS (Fig. 6)



FREQUENCY RESPONSE (Fig. 7)



RETURN LOSS (Fig. 8)



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