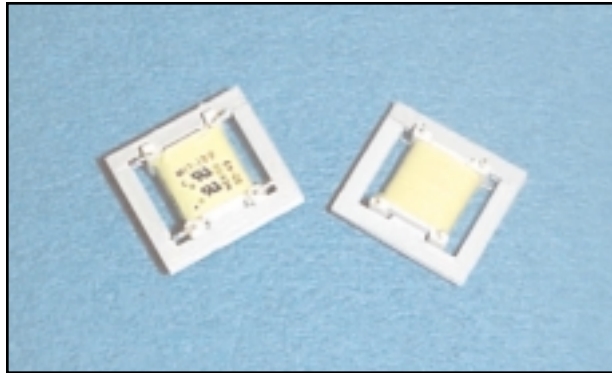


Analog Telephony / Modem Couplers



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.

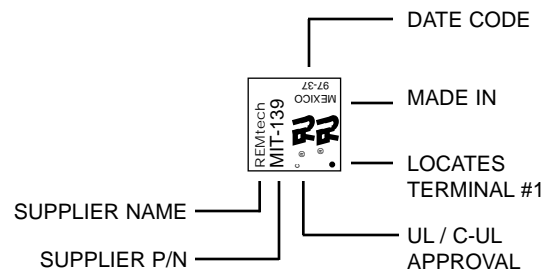
FEATURES

- 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.

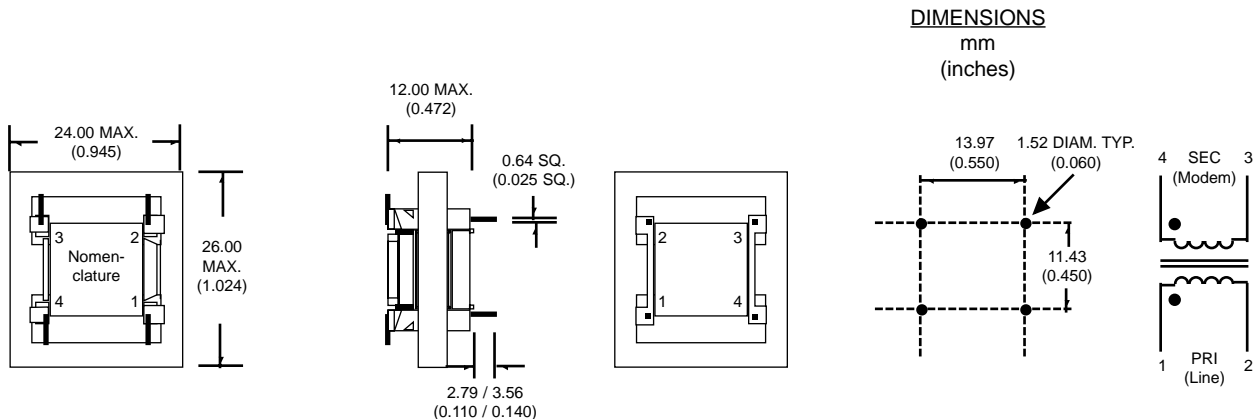
PRODUCT COMPLIANCE

- UL / C-UL recognized file number: E171120

NOMENCLATURE (Fig. 1)



MECHANICAL DIMENSIONS (Fig. 2)



Literature Number: DSA.MIT-139
© Copyright 2000, REMtech Corporation
All rights reserved. Printed in U.S.A.
7/00

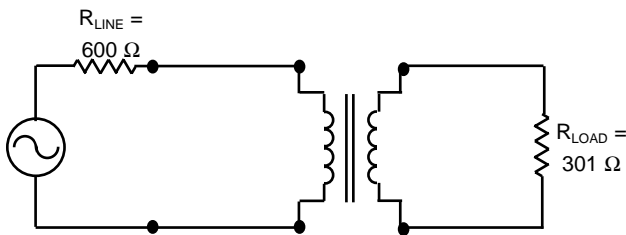
Analog Telephony / Modem Couplers

ELECTRICAL PERFORMANCE SPECIFICATIONS

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

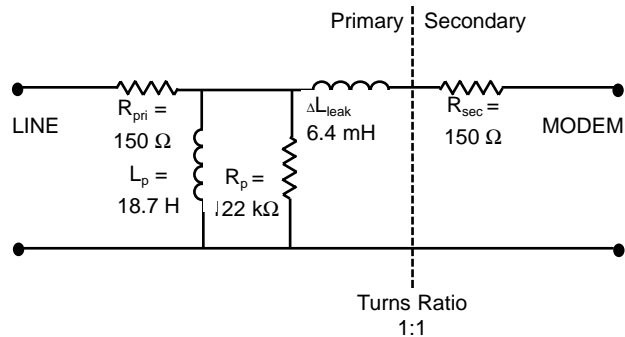
PARAMETERS	CONDITIONS	MIN	TYP	MAX	UNITS
Impedance	Reflected on Primary With Load on Secondary	-	600	-	Ohms
		-	374	-	Ohms
Total Harmonic Distortion	@ 600 Hz, -10 dBm @ 150 Hz, -3 dBm	-	-94	-86	dB
		-	-81	-75	dB
Insertion Loss	Per IEEE method; @ 1000 Hz	-	2.55	3.00	dB
Return Loss	200 Hz - 4000 Hz Per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

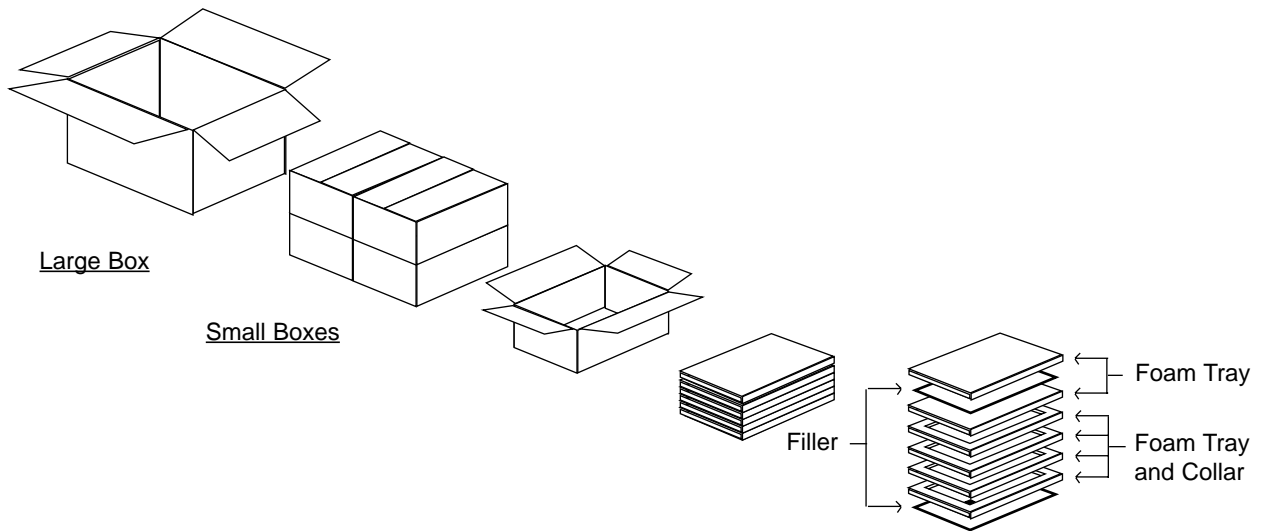
(Typical Transformer Model @ 1 V, 1 kHz)



REMtech Corporation makes no assertion or warranty that the circuitry and the uses thereof disclosed herein are non-infringing on any valid US or foreign patents. REMtech assumes no liability as a result of the use of said specifications and reserves the right to make changes to specifications without notice. REMtech does not authorize or warrant any REMtech device for use in life support devices and/or systems. Contact your nearest REMtech Sales Office for the latest specifications.

Literature Number: DSB.MIT-139
© Copyright 2000, REMtech Corporation
All rights reserved. Printed in U.S.A.
7/00

STANDARD PACKAGING (Fig. 9)



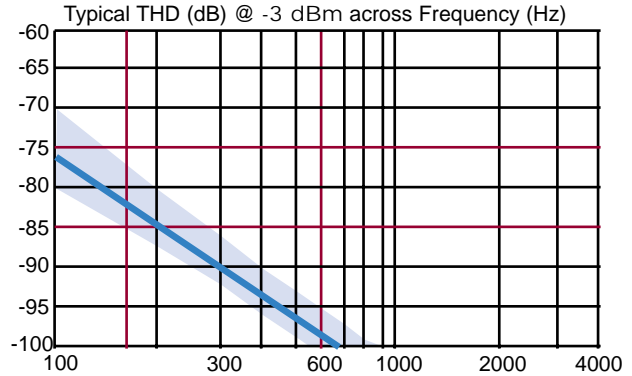
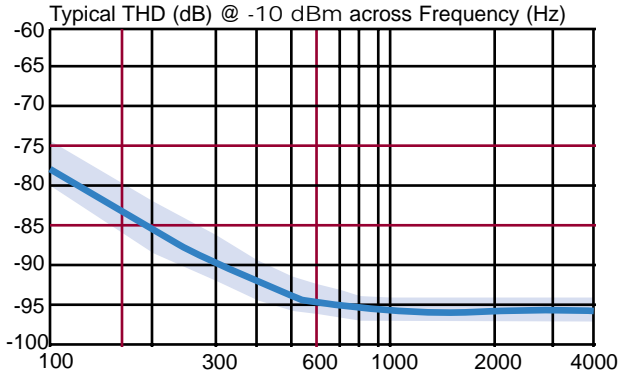
Packaging

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

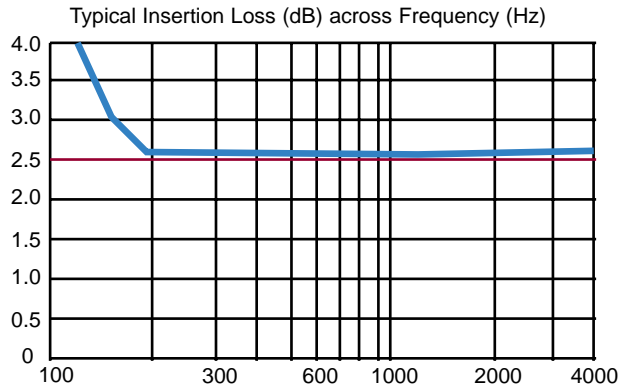
Analog Telephony / Modem Couplers

PERFORMANCE DATA

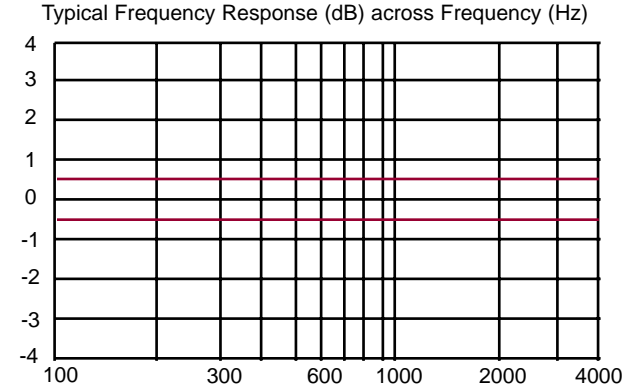
TOTAL HARMONIC DISTORTION (Fig. 5)



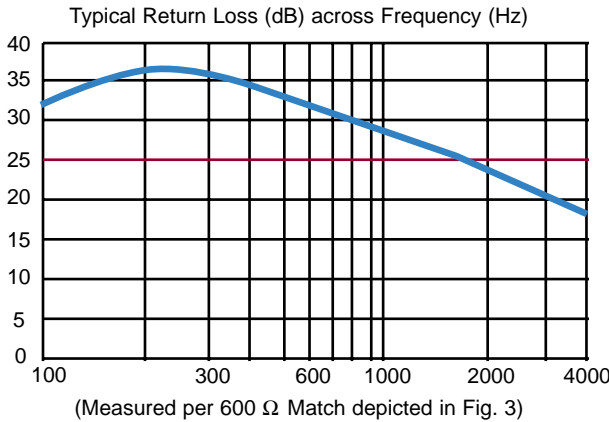
INSERTION LOSS (Fig. 6)



FREQUENCY RESPONSE (Fig. 7)



RETURN LOSS (Fig. 8)



REMtech Corporation makes no assertion or warranty that the circuitry and the uses thereof disclosed herein are non-infringing on any valid US or foreign patents. REMtech assumes no liability as a result of the use of said specifications and reserves the right to make changes to specifications without notice. REMtech does not authorize or warrant any REMtech device for use in life support devices and/or systems. Contact your nearest REMtech Sales Office for the latest specifications.

Literature Number: DSD.MIT-139
 © Copyright 2000, REMtech Corporation
 All rights reserved. Printed in U.S.A.
 7/00