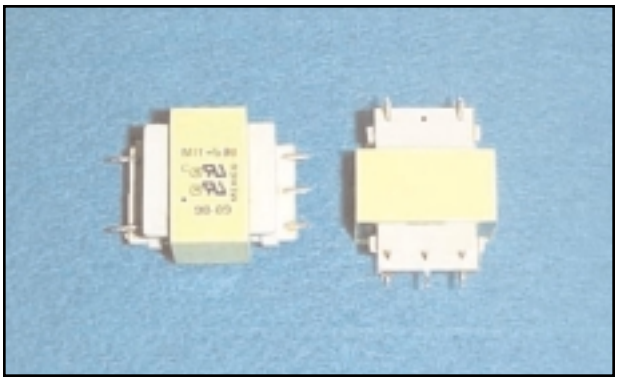
Analog Telephony / Modem Couplers



DESCRIPTION

The REMtech Magnetics MIT-538 is a “Dry” Modem Isolation Transformer suitable for up to V.32bis (14.4 kbps) consumer and internet analog modem applications compliant with Domestic safety norms.

For future designs, see other lower-cost platforms. Our MIT-3372 offers even better electrical characteristics at much lower cost.

Both MIT-538 and MIT-3372 feature exceptional Insertion Loss and Return Loss characteristics.

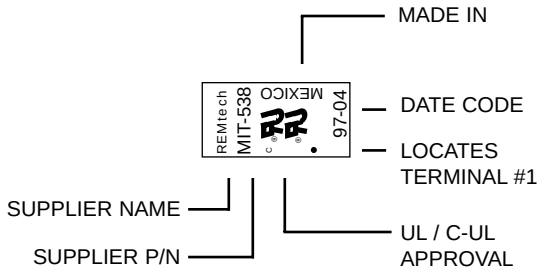
FEATURES

- Suitable for modem speeds up to V.32bis (14.4 kbps). Due to exceptional Insertion Loss and Return Loss characteristics, may be adaptable to V.34 (33.6 kbps) or beyond.
- Total Harmonic Distortion rated -84 dB typ. @ 600 Hz, -10 dBm and -73 dB typ. @ 150 Hz, -3 dBm.
- Insertion Loss rated 0.75 dB typ. @ 1000 Hz.
- Complies with UL1459 safety norms.
- Reflects 600 Ohms on Primary with 536 Ohms Secondary Load.
- Small PCB footprint (28.3 mm x 19.7 mm).
- Low-Profile (11.8 mm).
- Industry-standard pin configuration.

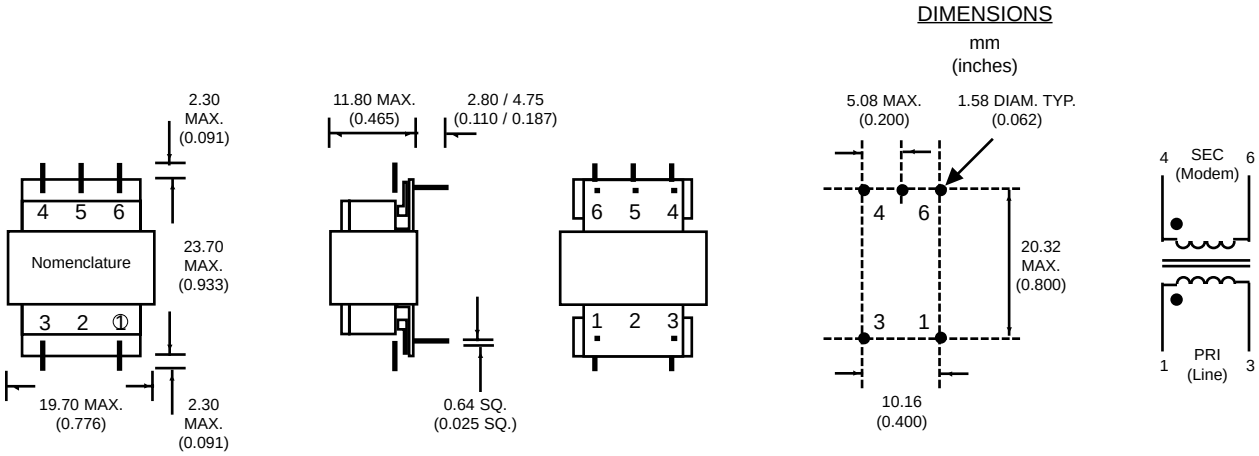
PRODUCT COMPLIANCE

- UL / C-UL recognized file number: E171120

NOMENCLATURE (Fig. 1)



MECHANICAL DIMENSIONS (Fig. 2)



Literature Number: DSA.MIT-538

7/00

North America
Tel: 1-847-545-6700
Fax: 1-847-545-6720

Europe
Tel: 32-11-300868
Fax: 32-11-300890

Asia
Tel: 886-2-2523-6368
Fax: 886-2-2523-6369

Japan
Tel: 03-3980-2212
Fax: 03-3980-2213

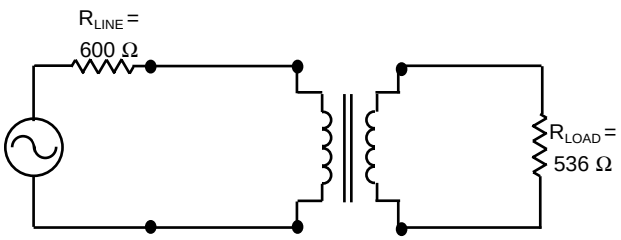
Analog Telephony / Modem Couplers

ELECTRICAL PERFORMANCE SPECIFICATIONS

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

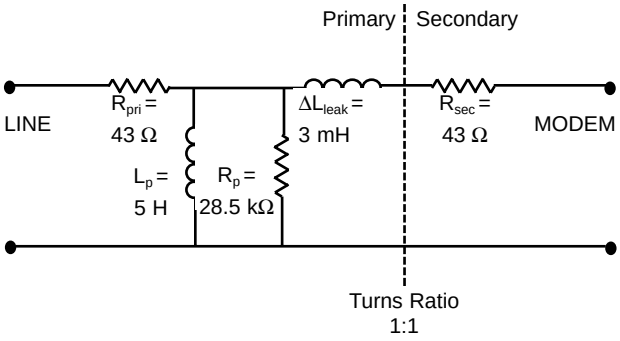
PARAMETERS	CONDITIONS	MIN	TYP	MAX	UNITS
Impedance	Reflected on Primary With Load on Secondary	- -	600 536	- -	Ohms Ohms
Total Harmonic Distortion	@ 600 Hz, -10 dBm @ 150 Hz, -3 dBm	- -	-84 -73	-72 -62	dB dB
Insertion Loss	Per IEEE method; @ 1000 Hz	-	0.75	0.85	dB
Return Loss	200 Hz -3000 Hz Per 600 Ohm Match (Fig. 3)	25	-	-	dB
Dielectric Breakdown Isolation Production methods applied:	Safety Standard tested 1 Min. HiPot Voltage Duration Trip Leakage Current	1000 1250 2 -	- - - -	- - - 200	Vrms Vrms Sec µA
Frequency Response	200 Hz - 4000 Hz	-	±0.20	-	dB
Longitudinal Balance	Per FCC part 68.310 60 Hz - 1000 Hz 1000 Hz - 4000 Hz	 60 40	 - -	 - -	 dB dB
DC Resistance @ 20°C, ±10%	Primary Winding Secondary Winding	- -	43 43	- -	Ohms 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)



Literature Number: DSB.MIT-538

7/00

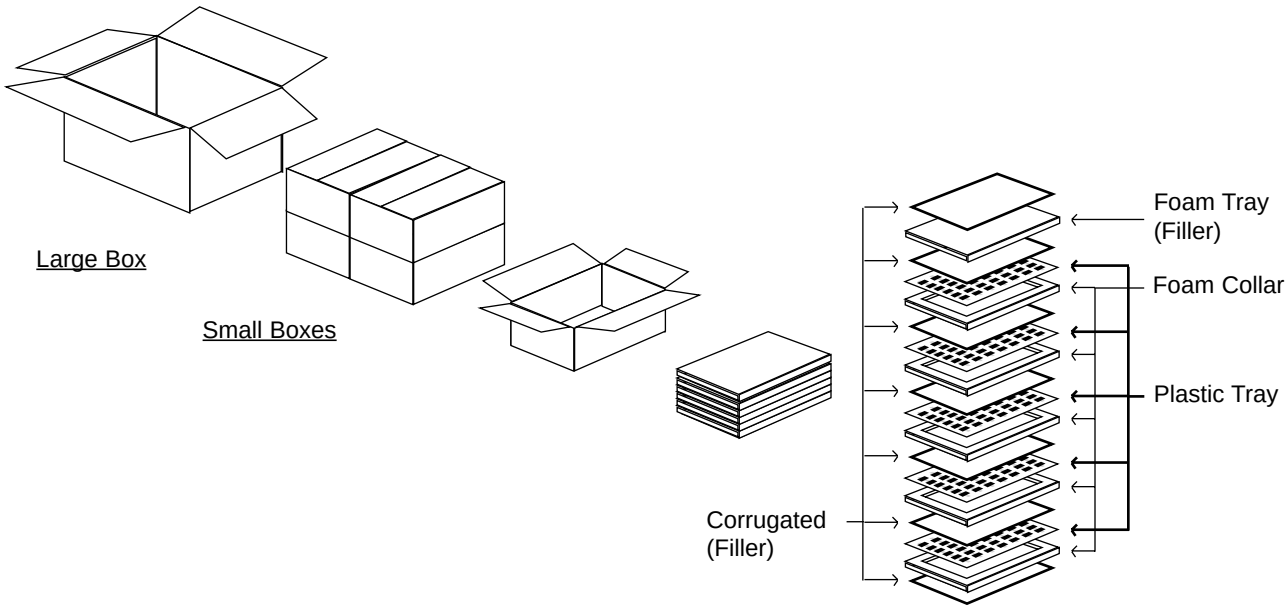
North America
Tel: 1-847-545-6700
Fax: 1-847-545-6720

Europe
Tel: 32-11-300868
Fax: 32-11-300890

Asia
Tel: 886-2-2523-6368
Fax: 886-2-2523-6369

Japan
Tel: 03-3980-2212
Fax: 03-3980-2213

STANDARD PACKAGING (Fig. 9)



Packaging

Material	Contents	#Transformers
Large Box	4 Small Boxes	840
Small Box	5 Trays	210
Tray	42 Transformers	42
---	Transformer	1

Special plastic trays are provided for best material handling in order to prevent wire breaks caused by stressing pins:

1. Inventory transformers in their original small boxes or large outer boxes.
2. Transport transformers sealed in original boxes to prevent shipping damage.
3. Unpack the boxes tray by tray. Do not dump the transformers out of the boxes.
4. Remove each transformer individually by grasping the core metal rather than sensitive pins. Plastic trays are specifically designed for operators to grasp transformers by the core (metal).

Literature Number: DSC.MIT-538

7/00

North America
Tel: 1-847-545-6700
Fax: 1-847-545-6720

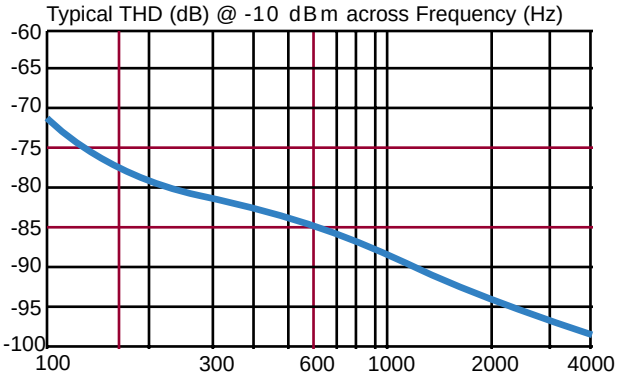
Europe
Tel: 32-11-300868
Fax: 32-11-300890

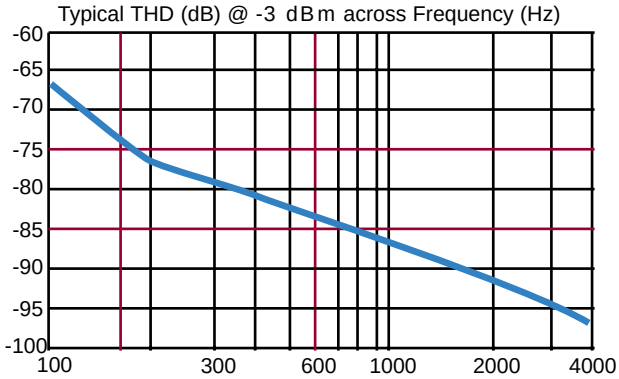
Asia
Tel: 886-2-2523-6368
Fax: 886-2-2523-6369

Japan
Tel: 03-3980-2212
Fax: 03-3980-2213

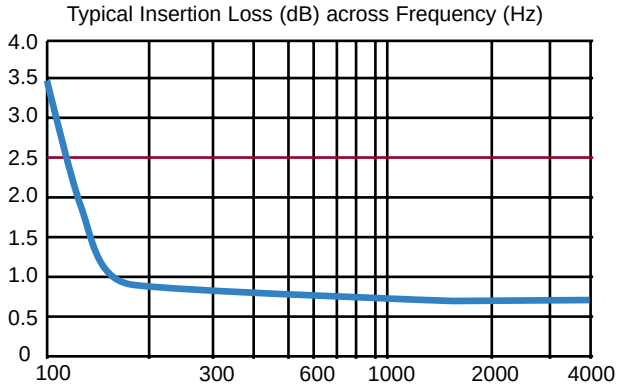
PERFORMANCE DATA

TOTAL HARMONIC DISTORTION (Fig. 5)

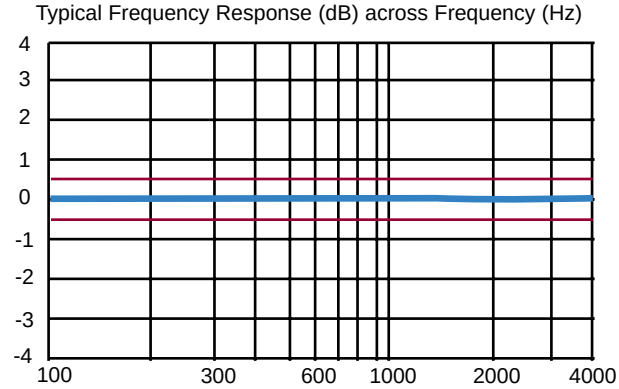




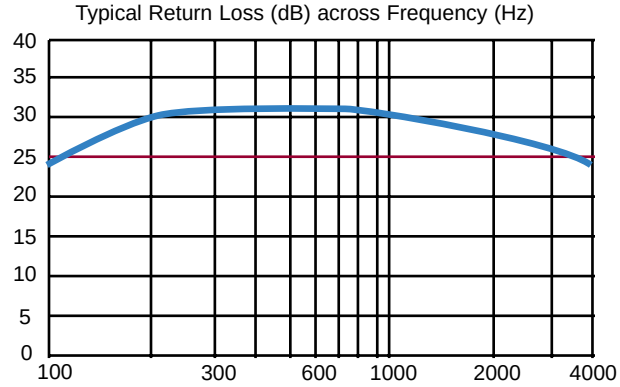
INSERTION LOSS (Fig. 6)



FREQUENCY RESPONSE (Fig. 7)



RETURN LOSS (Fig. 8)



(Measured per 600 Ω Match depicted in Fig. 3)

Literature Number: DSD.MIT-538

7/00

North America
Tel: 1-847-545-6700
Fax: 1-847-545-6720

Europe
Tel: 32-11-300868
Fax: 32-11-300890

Asia
Tel: 886-2-2523-6368
Fax: 886-2-2523-6369

Japan
Tel: 03-3980-2212
Fax: 03-3980-2213