

DESCRIPTION

The REMtech SMIT-3451 is a “Dry” SMT Modem Isolation Transformer suitable for up to V.90 (56 kbps) consumer and internet analog modem applications compliant with Domestic safety norms.

SMIT-3451 is designed for low insertion loss requirements.

Watch for upcoming Worldwide safety version complying with IEC60950 Supplementary safety standards.

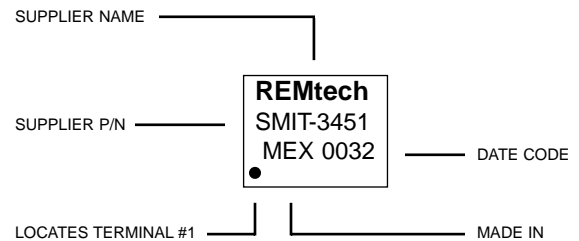
FEATURES

- Suitable for modem speeds up to V.90 (56 kbps).
- Total Harmonic Distortion rated -85 dB typ. @ 600 Hz, -10 dBm and -56 dB typ. @ 150 Hz, -3 dBm.
- Insertion Loss rated 0.85 dB typ. @ 1000 Hz.
- Complies with UL1459 safety norms.
- Reflects 600 Ohms on Primary with 523 Ohms Secondary Load.
- Very small PCB footprint (18.5 mm x 17.4 mm).
- Very Low-Profile (10.0 mm).
- SMT Industry-standard pin configuration.

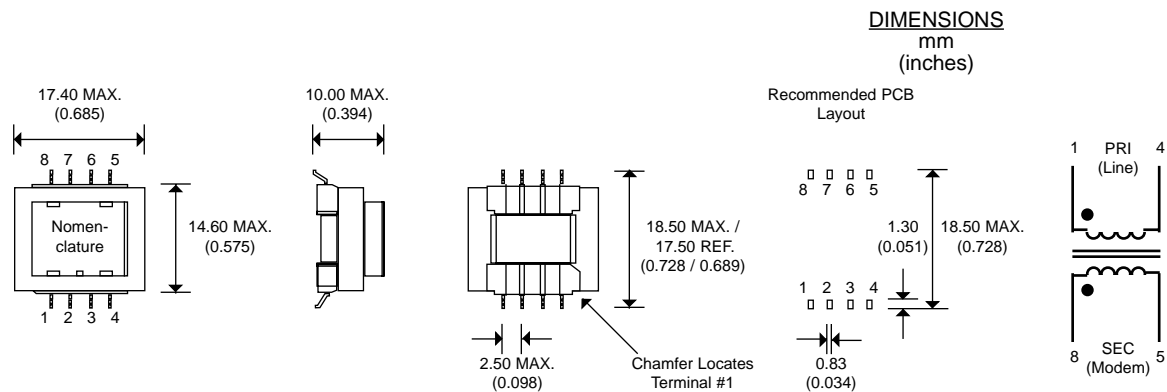
PRODUCT COMPLIANCE

- UL / C-UL recognized file number: E 171120

NOMENCLATURE (Fig. 1)



MECHANICAL DIMENSIONS (Fig. 2)



Note: Routing conductive traces under the transformer is not recommended.

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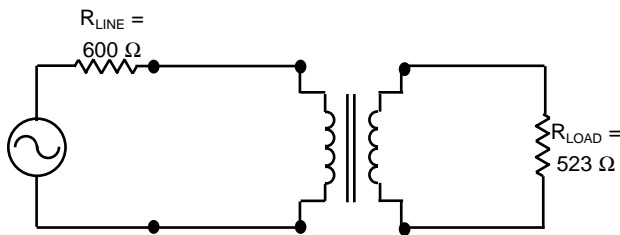
Analog Telephony / Modem Couplers

ELECTRICAL PERFORMANCE SPECIFICATIONS

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

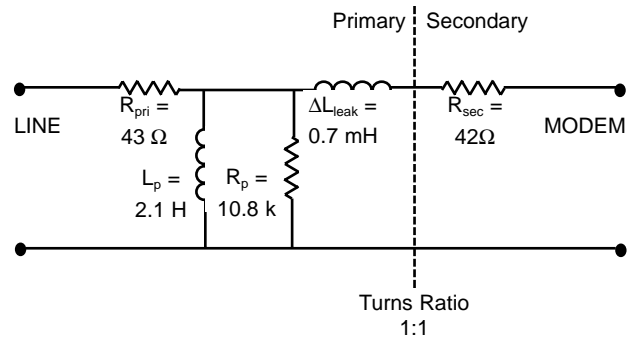
PARAMETERS	CONDITIONS	MIN	TYP	MAX	UNITS
Impedance	Reflected on Primary With Load on Secondary	-	600	-	Ohms
		-	523	-	Ohms
Total Harmonic Distortion	@ 600 Hz, -10 dBm @ 150 Hz, -3 dBm	-	-85	-76	dB
		-	-58	-	dB
Insertion Loss	Per IEEE method; @ 1000 Hz	-	0.85	1.00	dB
Return Loss	200 Hz - 4000 Hz Per 600 Ohm Match (Fig. 3)	20	-	-	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	-	43	-	Ohms
		-	42	-	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)



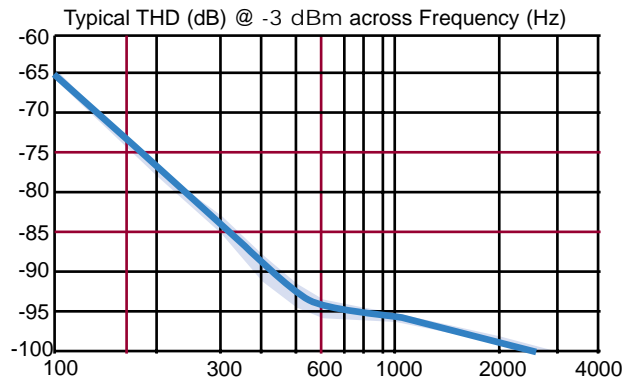
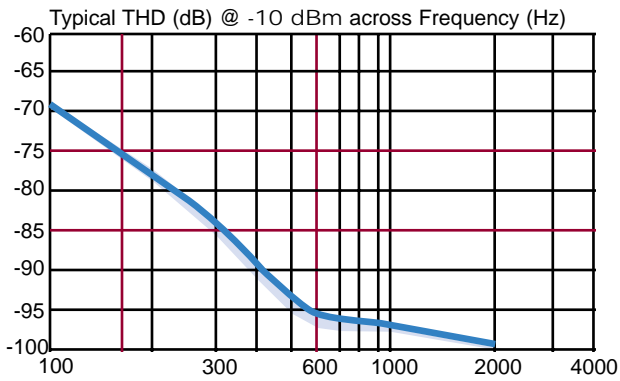
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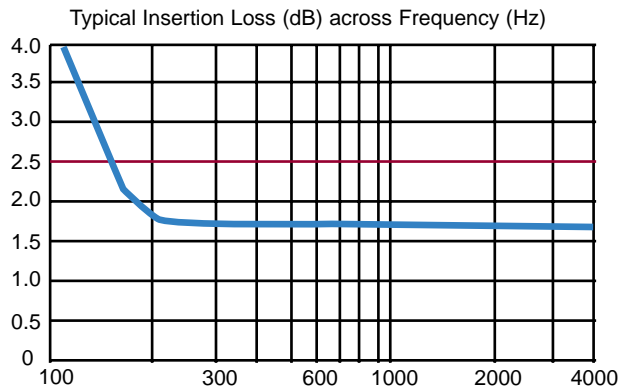
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PERFORMANCE DATA

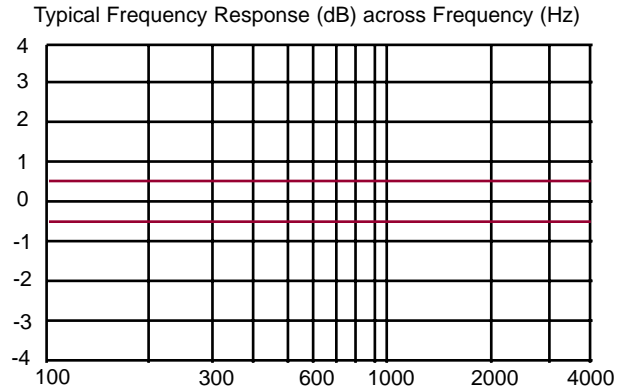
TOTAL HARMONIC DISTORTION (Fig. 5)



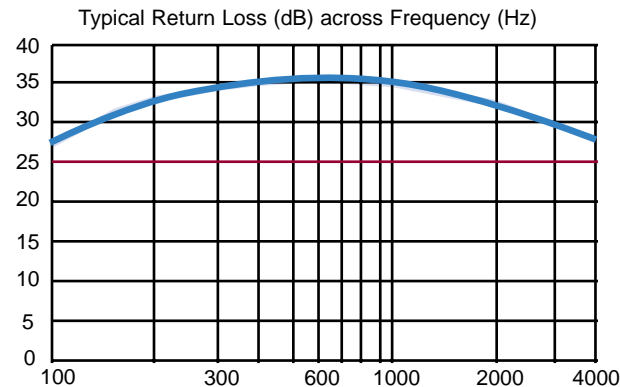
INSERTION LOSS (Fig. 6)



FREQUENCY RESPONSE (Fig. 7)



RETURN LOSS (Fig. 8)



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