

12kHz METERING SIGNAL FILTER

P2622

Features

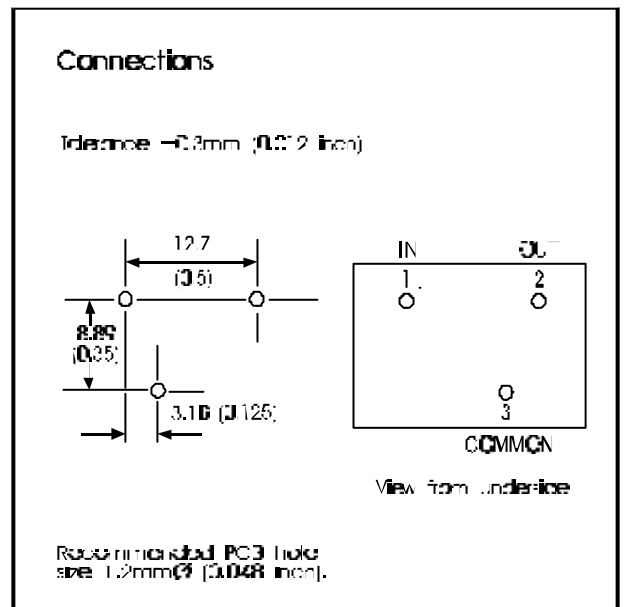
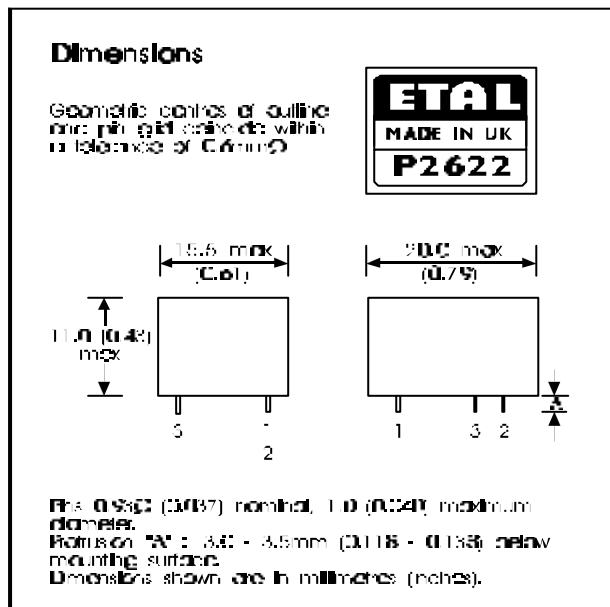
- * Miniature construction
- * >30dB attenuation at 12kHz
- * Matches Swiss complex line impedance
- * Minimal in-band attenuation

DESCRIPTION

The Swiss telephone network bears 12kHz metering signals at amplitudes sufficient to operate simple relay-type apparatus without amplification on customers' premises. Modems containing semiconductor line-hold circuits are easily upset by these large signals because the voltage swing may exceed the standing DC level. The P2622 filter

deals effectively with this by problem suppressing the metering signals, its attenuation ensuring that, in the worst case, their level is reduced to less than 0.25Vrms across the line-hold. The claimed performance is maintained even when the drive is the greatest of which the network is capable and with simultaneous maximum DC superimposed.

CONSTRUCTION



Safety

A non-safety-critical component.

Line to Line

Maximum: 200V DC.
 Supports: 75V DC plus maximum ringing voltage.

Worst-Case Drive

In Switzerland the most unfavourable level of 12kHz meter pulses is 10Vrms at the subscriber's equipment.

(ETS 300 001 para. 1.7.8)

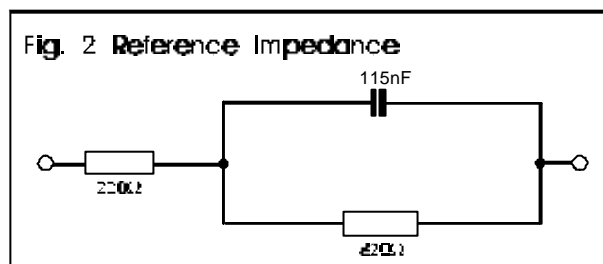
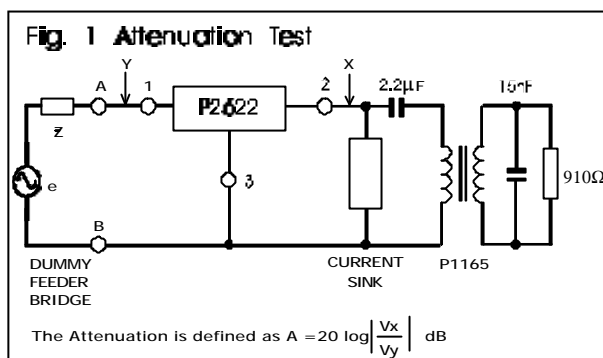
TEST CONDITIONS

Attenuation Test*

See circuit Fig. 1 Note that transformer etc. need not be present. Z is reference impedance of Fig.2.

Frequency	12kHz ±150Hz
Input voltage	up to 10Vrms
DC	up to 100mA
Temperature	-10°C to +70°C

*IN and OUT terminals MUST be respected but the filter may be inverted because the transformer interwinding impedances are very high, so avoiding imbalance effects.



PERFORMANCE CLAIMS

Attenuation

Exceeds 32dB.

NOTE: Further attenuation at the load may be provided by roll-off in the transformer.

P1200 and P2001 approx 6.0dB
 P1165 approx 0.5dB
 P2781 negligible

Input Impedance

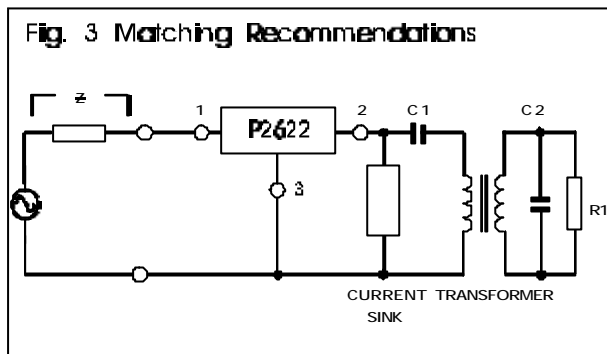
With 11.88-12.12kHz at AB

>800Ω (almost pure capacitance) under all conditions of termination

Line loading due to shunt impedance at 12kHz ±1% < 1dB (600Ω source, 600Ω measuring set).

DC Resistance

Pins 1-2: 12.5-14.5Ω



For matching to transformers and reference impedances not specified below, please contact Profec Technologies.

Z ref	Transformer	C1 μF	C2 nF	R1 ohms	Return Loss, dB			
					200Hz	500Hz	2500Hz	4000Hz
220Ω+ (820Ω//115nF)	P1200	2.2	27 ± 5%	910 2%	15	26	26	26
	P2001	2.2	27 ± 5%	910 2%	15	26	26	26
	P1165	2.2	15 ± 5%	910 2%	14	24	26	20
	P2781	2.2	27 ± 5%	820 2%	16	26	22	20

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CAUTION

This signal filter has been designed and characterized for use with ETAL line isolating transformers only. Satisfactory performance cannot be guaranteed with other components.

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ISO 9001
FM 25326

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