

ISDN S₀ INTERFACE MODULE**P3023****Features**

- * S₀ interface in a single module
- * 2 transformers, quad choke and protection
- * Extremely small size - 11mm profile
- * ITU-T I.430 compliant: excellent pulse shape
- * Supplementary insulation
- * Vacuum encapsulated
- * IEC 950, EN 60950 and EN 41003 certified
- * CSA NRTL/C Certificate of Compliance

DESCRIPTION

P3023 is an integrated line interface module for the S₀ interface, containing all the necessary components to interface the ISDN chipset directly to the telephone line, including EMC quad choke and overvoltage protection.

Designed for safety-critical applications, P3023 features high voltage isolation in a very small through-pin package with a maximum seated height of 11mm, ideally suited to high component density packaging.

P3023 has signal transformers with 1:1CT ratio suitable for Motorola MC145474.

The safety system yields low leakage inductance and coupling capacitance, giving excellent transmission performance, enabling the P3023 comfortably to meet the ITU-T I.430 basic rate requirements.

P3023 is certified to safety standards IEC 950, EN 60950 and EN 41003 for supplementary insulation, 250V working voltage. P3023 is supported by an IEC CB Test Certificate and a CSA Certificate of Compliance

SPECIFICATION

Electrical

At T = 25°C. The convention used in this datasheet is that 'primary' windings are on the line side and 'secondary' windings are on the IC side.

Parameter	Conditions	Min	Typ	Max	Units
Transformers:					
Turns ratio		-	1.00	-	-
Primary Inductance	2kHz 100mV	23	44	-	mH
	10kHz 100mV	23	33	-	mH
	20kHz 100mV	22	31	-	mH
Primary DCR		-	3	-	Ω
Leakage Inductance (referred to primary)		-	4	12	μH
Shunt Loss (referred to primary)	2kHz 100mV	-	6	-	kΩ
	10kHz 100mV	20	-	-	kΩ
Interwinding capacitance		-	25	-	pF
Quad Choke:					
Inductance per winding	10kHz	-	5	-	mH
	100kHz	-	3.8	-	mH
	1MHz	-	2.5	-	mH
DCR per winding		-	0.8	-	Ω
Leakage inductance		-	500	-	nH
Interwinding Capacitance		-	20	-	pF
Module:					
Voltage isolation	50Hz	-	3.88	-	kVrms
	DC	-	5.5	-	kV
Operating range:					
Functional		0	-	+70	°C
Storage		-40	-	+125	°C

Notes:

Pulse Shape: Meets the requirements of ITU-T I.430 with 50Ω and 400Ω loads.
 Input Impedance: Meets the requirements of I.430 over the range 2kHz to 1MHz

DC Imbalance: Meets the requirements of I.430 with 1mA of direct current imbalance in the centre-tapped line windings.

SAFETY

Constructed in accordance with IEC 950:1991, EN 60950:1992 (BS 7002:1992), supplementary insulation and BS EN 41003:1997, 250Vrms working.

ABSOLUTE MAXIMUM RATINGS

(Ratings of components independent of circuit).

Short term isolation voltage (2s)	4.6kVrms 6.5kVDC
DC current, primary terminals	100mA
Storage temperature	-40°C to +125°C
Lead temperature, 10s	260°C

CERTIFICATION

Certified by BSI to IEC 950:1991/A4:1996 (IECCB Test Certificate No. GB541W) sub-clauses 2.2.2, 2.9.2, 2.9.3, 2.9.4, 2.9.6, 2.9.7, 4.4, 4.4.3.2 (class V-0) and 5.3 for a maximum working voltage of 250Vrms, nominal mains supply voltage not exceeding 300Vrms and a maximum operating temperature of +70°C in Pollution Degree 3 environment, supplementary insulation.

CAN/CSA C22.2 No. 950-95/UL1950, certified by CSA, Third Edition, including revisions through to revision date March 1, 1998, based on Fourth Amendment of IEC 950, Second Edition, maximum working voltage 250Vrms, Pollution Degree 2, supplementary insulation.

CSA Certificate of Compliance 1107696 (Master Contract 188107).

Additionally, Profec Technologies certifies all transformers as providing voltage isolation of 2.12kVrms, 3kV DC minimum. All shipments are supported by a Certificate of Conformity to current applicable safety standards.

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