

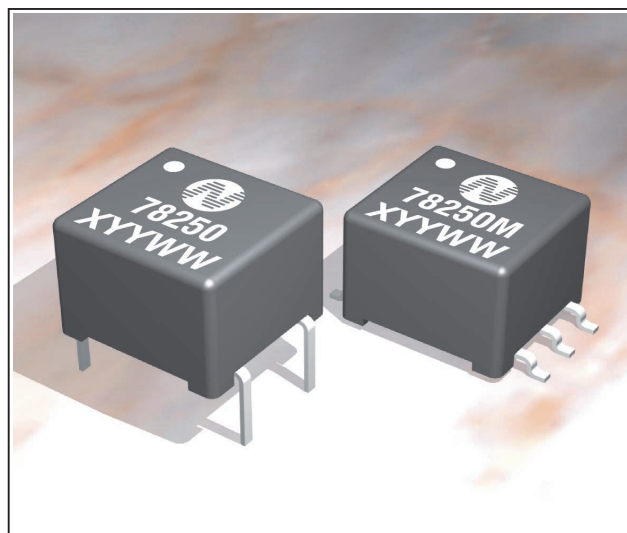
features

- ☐ Maxim Compatible
- ☐ Isolation to 4kV
- ☐ Surface Mount Options
- ☐ Toroidal Construction
- ☐ Standard Pinout
- ☐ UL 94V-0 Package Material
- ☐ Fully Encapsulated
- ☐ Low Profile
- ☐ Industrial Temperature Range

description

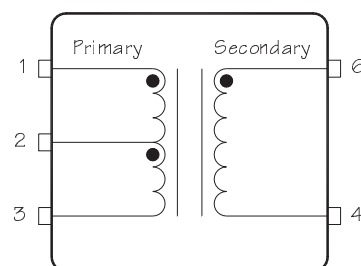
The 78250 series of converter transformers are specifically designed for use with Maxim chipsets to provide isolated RS232 interfaces. Carefully controlled turns ratios ensure consistent performance whilst a toroidal construction minimises EMI.

The surface mount devices are fully compatible with CECC00802 to 280°C which allows them to be placed and reflowed with IC's thus reducing time and cost in production.

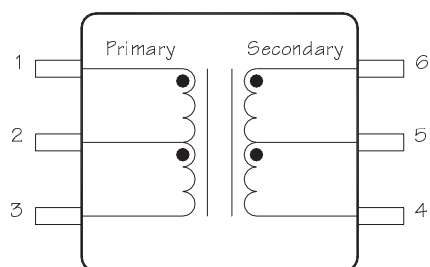


pin connections

6 Pin DIP (top view)



6 Pin SM (top view)*



*Pin 5 is connected to secondary centre tap.

PRELIMINARY

Notice : This is not a final specification.
Some parametric limits may be subject to change.

78250

Converter Transformer

absolute maximum ratings

Operating free air temperature range · · · · · –40°C to 85°C
 Storage temperature range · · · · · –50°C to 125°C
 Lead Temperature 1.5mm from case for 10 seconds · · · · · 300°C
 Peak current I_{PK} · · · · · 300mA
 Isolation voltage 78250(M) (flash tested for 1 second) · · · · · 1500Vrms
 Isolation voltage 78250V(M) (flash tested for 1 second) · · · · · 4000Vrms

electrical specifications over operating free air temperature range¹

78250

Parameter	Conditions	MIN	NOM	MAX	Package Style	Units
Primary Inductance, L_p	10kHz, 100mV	1.0	2.0	2.5	1	mH
Leakage Inductance, L_L	100kHz, 100mV		2.0	3.0		μ H
Interwinding Capacitance, C_{WW}	100kHz, 100mV		69	90		pF
D.C. Resistance, R_{DC}	<0.1VDC		1.0	2.0		Ω
Volt-time Product, E_T	5kHz, 5V	50				V μ s

electrical specifications over operating free air temperature range¹

78250M

Parameter	Conditions	MIN	NOM	MAX	Package Style	Units
Primary Inductance, L_p	10kHz, 100mV	1.0	2.0	2.5	2	mH
Leakage Inductance, L_L	100kHz, 100mV		2.0	3.0		μ H
Interwinding Capacitance, C_{WW}	100kHz, 100mV		69	90		pF
D.C. Resistance, R_{DC}	<0.1VDC		1.0	2.0		Ω
Volt-time Product, E_T	5kHz, 5V	50				V μ s

¹ All data taken at $T_A=25^\circ\text{C}$.

electrical specifications over operating free air temperature range¹

78250V

Parameter	Conditions	MIN	NOM	MAX	Package Style	Units
Primary Inductance, L_p	10kHz, 100mV	1.0	2.0	2.5	1	mH
Leakage Inductance, L_L	100kHz, 100mV		35	40		μ H
Interwinding Capacitance, C_{WW}	100kHz, 100mV		9	12		pF
D.C. Resistance, R_{DC}	<0.1VDC		1.4	1.8		Ω
Volt-time Product, E_T	5kHz, 5V	50				V μ s

electrical specifications over operating free air temperature range¹

78250MV

Parameter	Conditions	MIN	NOM	MAX	Package Style	Units
Primary Inductance, L_p	10kHz, 100mV	1.0	2.0	2.5	2	mH
Leakage Inductance, L_L	100kHz, 100mV		35	40		μ H
Interwinding Capacitance, C_{WW}	100kHz, 100mV		9	12		pF
D.C. Resistance, R_{DC}	<0.1VDC		1.4	1.8		Ω
Volt-time Product, E_T	5kHz, 5V	50				V μ s

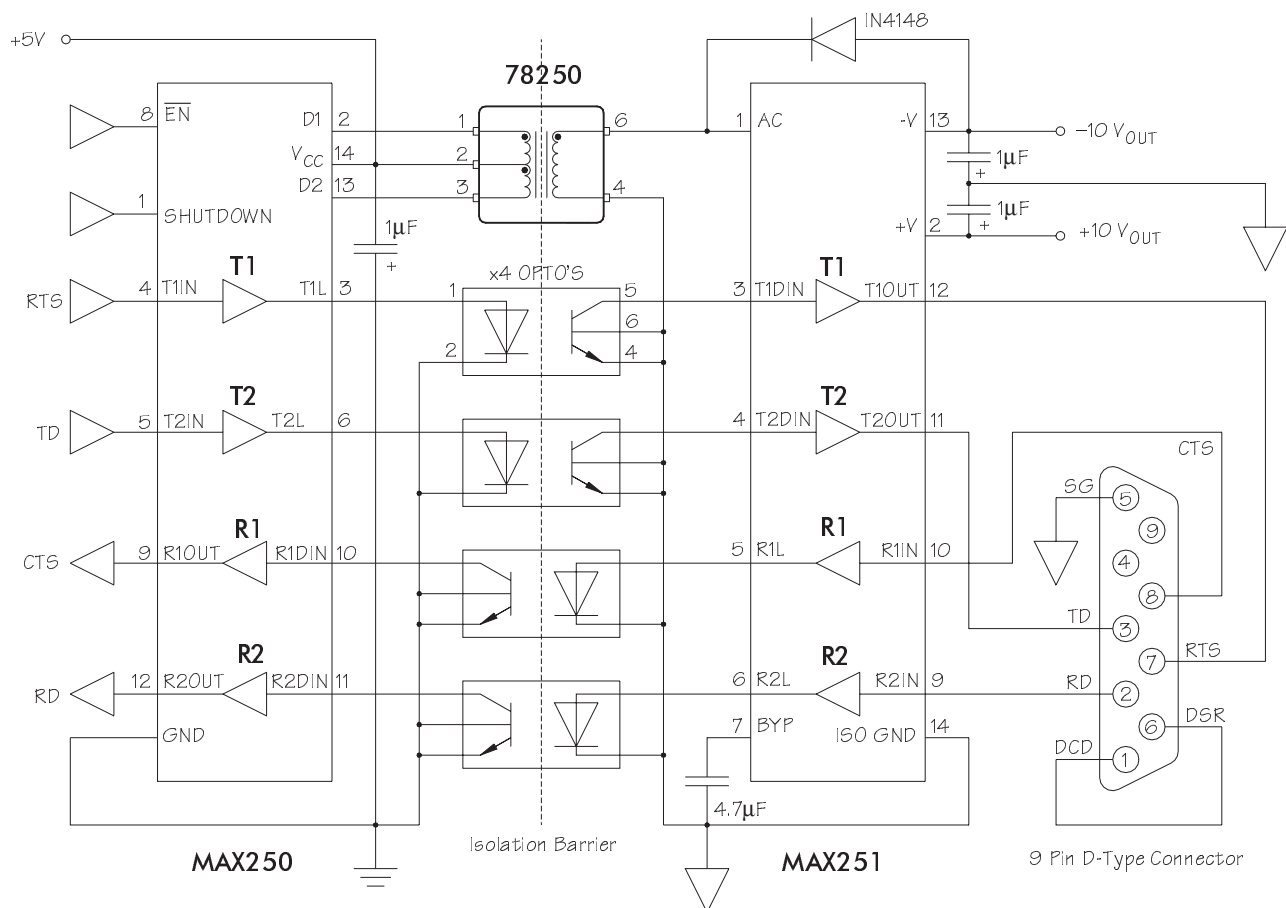
¹ All data taken at $T_A=25^\circ\text{C}$.

78250

Converter Transformer

typical characteristics

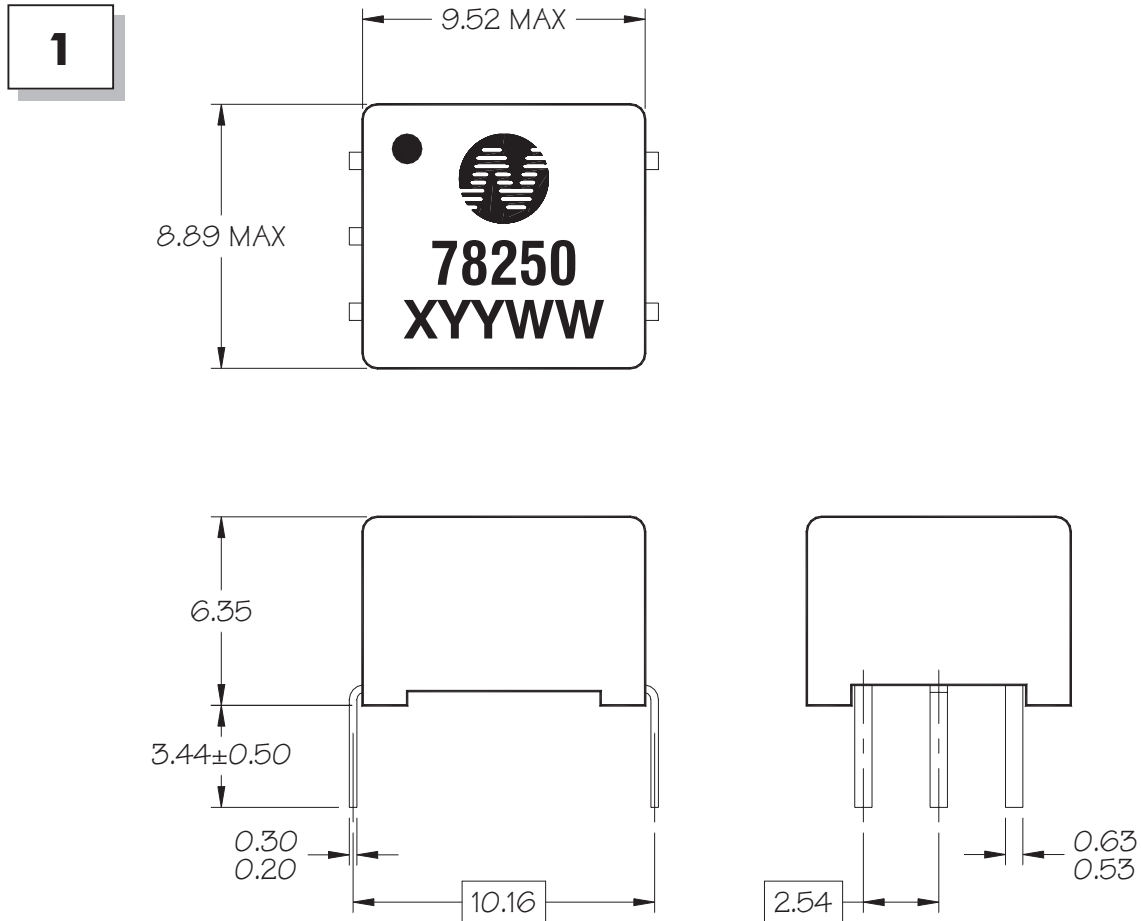
Isolated RS-232 interface



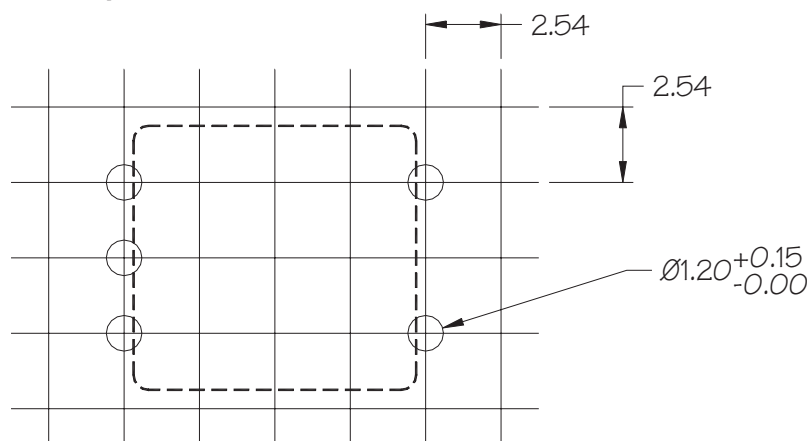
OPTO'S - 4 x 4N26 (78250(M)), 4 x CNY17-3 (78250V(M))

outline dimensions¹

6 Pin DIP package style



recommended footprint details



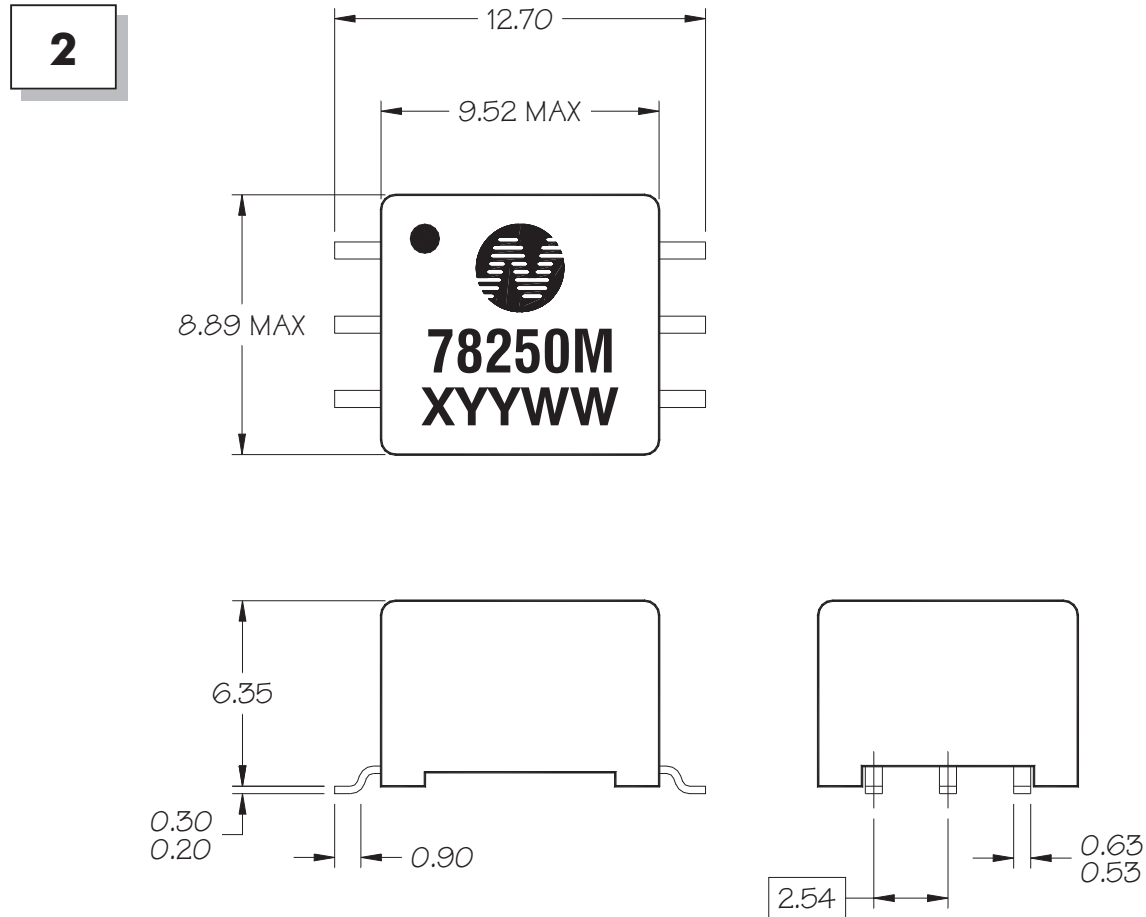
¹ All dimensions in mm XX.XX ± 0.25mm.
All pins on a 2.54mm pitch and within ±0.25mm of true position.

78250

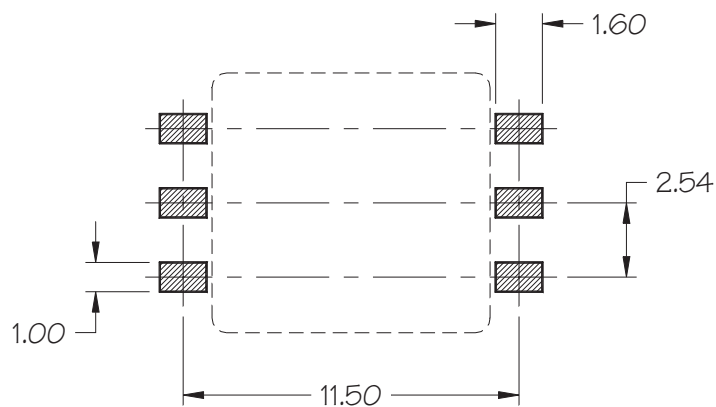
Converter Transformer

outline dimensions¹

6 Pin SM package style



recommended footprint details



¹ All dimensions in mm XX.XX $\pm$ 0.25mm.
All pins on a 2.54mm pitch and within $\pm$ 0.25mm of true position.

INFORMATION

The following Newport Components publications are also available :

- ☐ The Power Components Handbook (also in CD ROM format)
- ☐ EMC Design Guidelines

Please contact Newport Components or your local supplier for a copy of these data books.



FM 13273 / RS 31306

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For information and instructions on use, please consult the current Power Handbook.

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