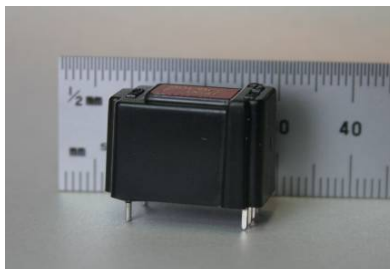


## 8 Amp current transducer RAZ3-802A range



*This new Hall Effect Current Transducer retains the excellent linearity and low hysteresis of our 2<sup>nd</sup> Generation parts, but adds laser-trimmed calibration accuracy and a convenient machine-insertable package.*

*RAZ3 parts can replace closed-loop current sensors in many applications.*

### Features –

- Small-footprint UL94-V0 rated package
- Line voltage isolated
- High measuring circuit dv/dt rejection – suitable for PWM controllers
- Gains compatible with 12 bit ADC (1 lsb = 10mA) or Analog (100mV/A)
- Highly accurate null-trimming for current-control applications
- Choice of  $\pm 1\%$ , 2% or 5% gain accuracy

### Maximum Ratings ( $T_A = 25^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Operating Temperature	$T_A$	-40 to +85	$^\circ\text{C}$
Storage Temperature	$T_{\text{stg}}$	-65 to +170	$^\circ\text{C}$
Supply Voltage	$V_S$	8	V
Maximum measuring-circuit current	$I_{\text{max}}$	10	A

## Characteristics (TA = 25°C, except where stated)

Parameter	Symbol	Lower Limit	Typical	Upper Limit	Unit
Measured current range (-40 to +85 °C)	I <sub>P</sub>		±8.0		A
Measuring Circuit insertion resistance (excluding PCB tracks)	R <sub>p</sub>		6		mΩ
Measuring Circuit insertion inductance (excluding PCB tracks)	L <sub>p</sub>		3.75		μH
Resolution (Gain code <i>A or B</i> ) with 5.0V (user supplied) 12-bit ADC (lsb magnitude)	δI		10		mA
Supply Current	I <sub>s</sub>		6.6	9	mA
Supply Voltage	V <sub>s</sub>	4.5	5.0	5.5	V
Null Output (V <sub>s</sub> = 5.00V)	V <sub>o</sub>	2.496 2.492 2.484	2.5	2.504 2.508 2.516	V
Transfer Function (V <sub>s</sub> = 5.00V, Gain Code <i>A or B</i> )	ΔV/I	120.9 119.6 116.0	122.1*	123.3 124.6 128.2	mV/A
Transfer Function (V <sub>s</sub> = 5.00V, Gain Code <i>C or D</i> )	ΔV/I	99.0 98.0 95.0	100.0	101.0 102.0 105.0	mV/A
Non-linearity (±8.0A, -40 to +85 °C)			1	1.5	%
Hysteresis (0 to 5.0A)	Hys		0.1	0.25	%
Null drift due to temperature change (as equivalent current)	TC <sub>ΔI/ΔT</sub>		±0.5 ±2	±2 ±5	mA/K
Gain Change due to temperature change	TC <sub>G</sub>		±0.05		%/K
Risetime 0 to 2.0A	Tr		15		μs

Standards

EN50178 (1997)

\* = 5.00V/4096 x 100, based on least-significant bit of 12-bit ADC corresponding to 10mA measurement.

† Continuously calibrated recommended for most applications, Pulse Calibrated for battery powered applications.

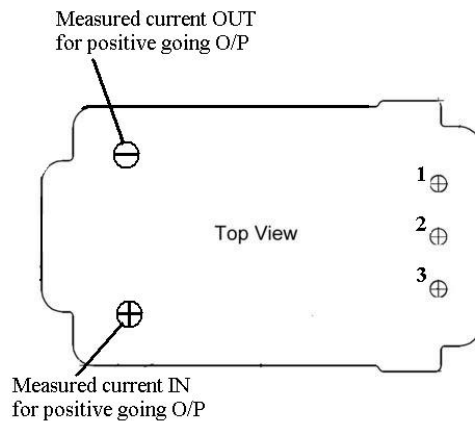
*Characteristics (TA = 25°C) ..... Continued*

Parameter	Symbol	Lower Limit	Typical	Upper Limit	Unit
Output Resistance – Gain Codes B or D (Buffered) Gain Codes A or C	R <sub>o</sub>	100	150	350 20	Ω
Effect of primary dv/dt (Equivalent measured Ampères/(Primary Volts/second) – for PWM applications) Gain Codes B or D (Buffered) Gain Codes A or C			10 <sup>-9</sup> 10 <sup>-10</sup>		AV <sup>-1</sup> s
Noise	E <sub>nrms</sub>			2.5	mV rms
Creepage/Clearance Distance		14			mm
Mass			6.5		g
Fire Resistance rating			UL94-V0		

Standards

EN50178 (1997)

*Connections –*



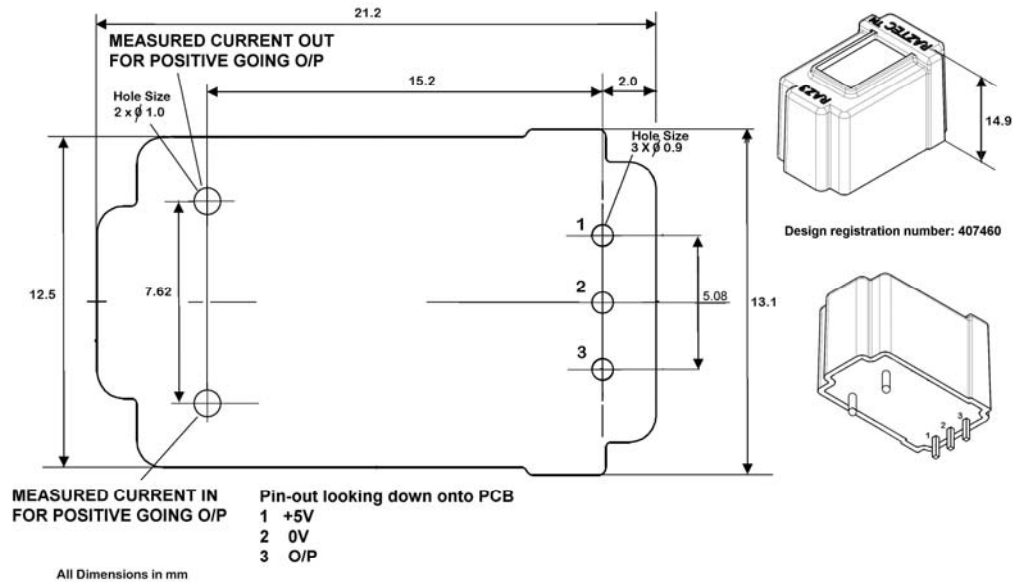
Footprint looking onto mounting surface  
Secondary Pins -

- 1 +5V supply
- 2 0V common
- 3 Output

*Options*

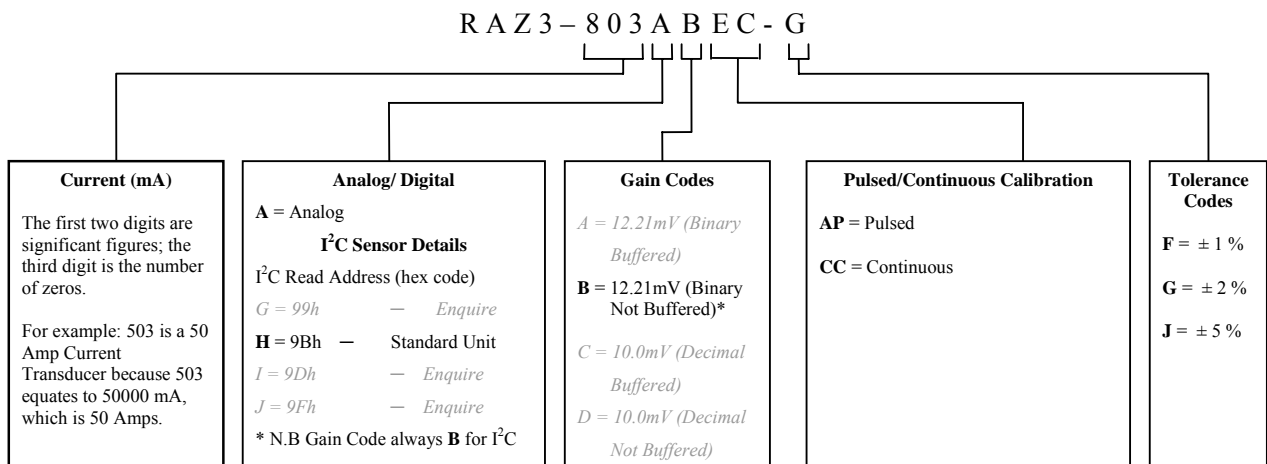
- Fast settling versions for pulsed 5V supply (e.g. Battery supplied applications)
- 1%, 2%, 5% Tolerance versions – see parts number system

## Mechanical



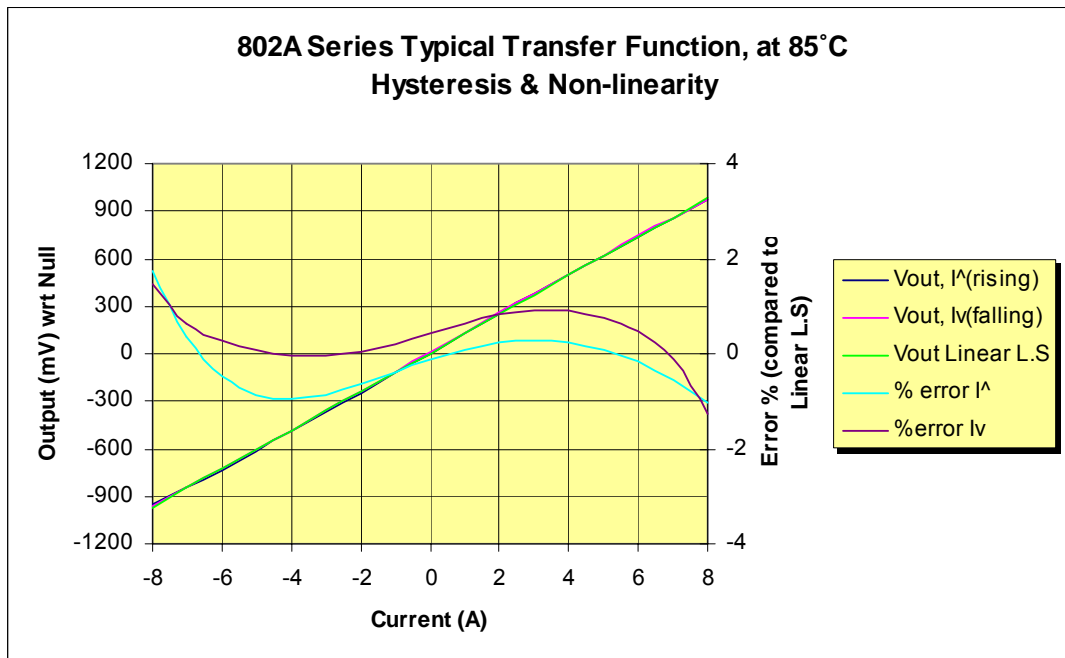
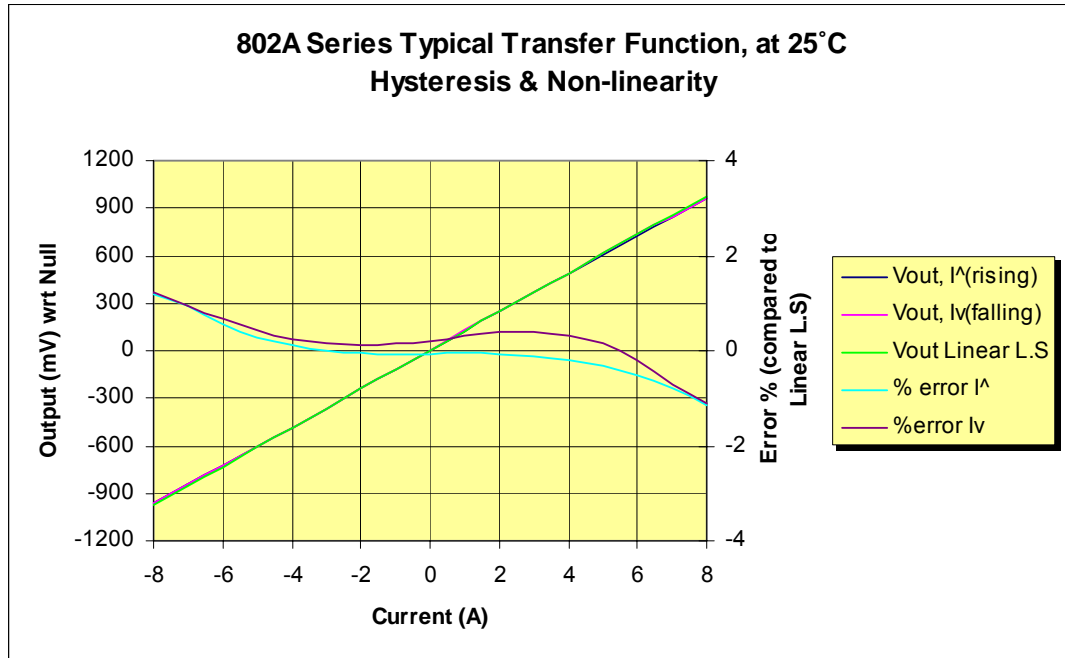
Footprint looking onto mounting surface – dimensions in mm

## Part Numbering System



Options – enquire with factory prior to order

## Performance characteristics



Raztec (NZ) Ltd operate a continuous product improvement program, therefore information contained in our datasheets may not reflect all current features. For

clarification please contact [sales@raztec.co.nz](mailto:sales@raztec.co.nz)

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