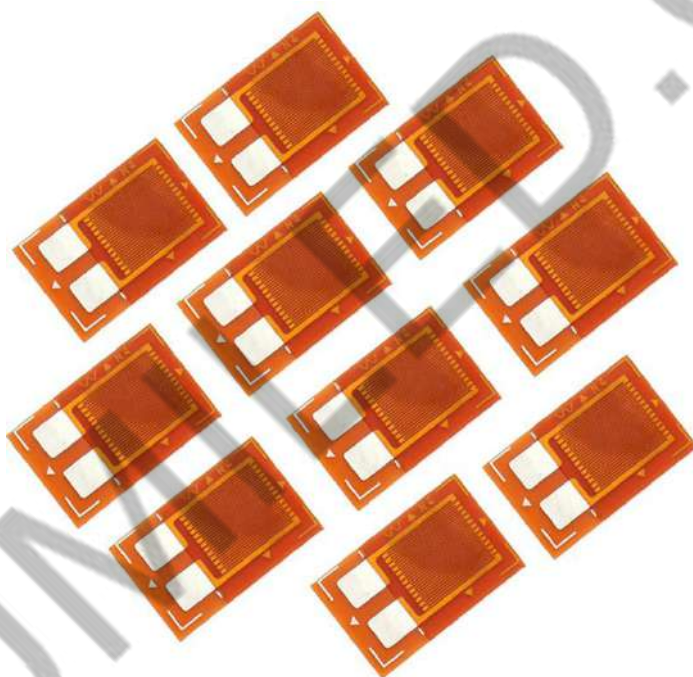


**Foil Resistance Strain Gauge**  
**350 ohm BF350-3AA**



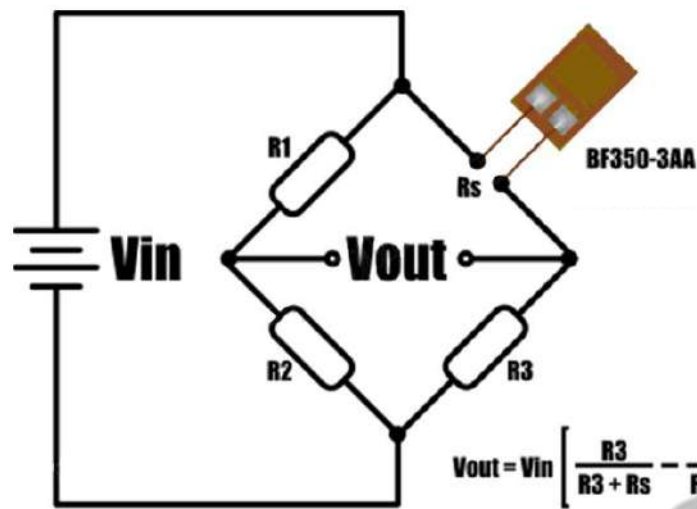
## Introduction

A resistive strain gauge sensor with a 350-ohm nominal resistance which varies when a force is applied. By measuring the change in the sensor's resistance, a measurement of the force applied to it can be obtained. The strain gauges exhibit small changes in resistance. Usually used in general metal materials and other similar elastomers.

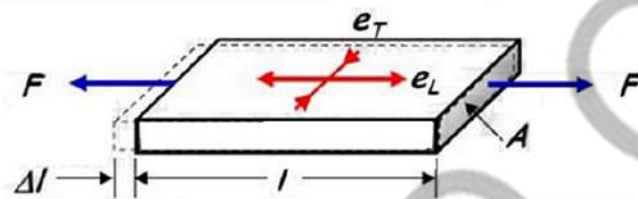
## Parameters

Type	BF350-3 AA
Resistance	350 $\Omega$ (typ.)
The Basal Material	Epoxy-Modified Phenolic
Basal Material Thickness	32 $\pm$ 1( $\mu$ m)
Grid Material	Constantan
Insulation resistance	10000 $\Omega$
Sensitivity Coefficient	2.1
Sensitivity Coefficient Dispersion	$\leq \pm 1\%$
Transverse effect coefficient	0.4%
Strain Limit	2.0%
Fatigue Lifetime	$\geq 1M$
Size	7.1 X 4.5mm/0.28 X 0.18inch(L*W)
Working Temperature	-30~+80 $^{\circ}$ C
Temperature Compensation	Aluminium
Temperature Compensation Coefficient	9,11,16,23,27

Backing Material		Resistance in OHMs		S.T.CODE.M.C			
Kind of Strain Gage		Active Gage Length		Grid and Tab Geometry		Creep Compensation	
B	F	350	3	AA		23	T0
B	Foil	F	Phenolics	AA	Homo axial	Steel	11
		H	Epoxy	HA	45° Indented Slice		
		X		GB	Sewmi-bridge Slice	Al	23
		A	Polyimide	FG	Full-bridge Slice		
T	Specific use	B	Reinforced Laminated Epoxy	KA	Wafer Slice	Stainless Steel	16



$$V_{out} = V_{in} \left[ \frac{R_3}{R_3 + R_s} - \frac{R_2}{R_1 + R_2} \right]$$



Material resistivity

$$R = \frac{\rho l}{A}$$

← Element length

← Cross section area

$$\Delta R = \left( \frac{\partial R}{\partial l} \right) \Delta l + \left( \frac{\partial R}{\partial A} \right) \Delta A + \left( \frac{\partial R}{\partial \rho} \right) \Delta \rho$$