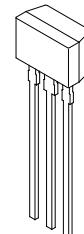


Magnetoresistance Element

Description

The DM-106B is a highly sensitive magnetoresistance element composed of an evaporated ferromagnetic alloy on a silicon substrate. (The element can be used for automatic shut off of tape recorders, as a contactless switch, and as a general detector of rotational motion.)

M-110 (Plastic)



Features

- Low power consumption 11 mW (Typ.)
Vcc=5 V
- Low magnetic field and high sensitivity
80 mVp-p (Typ.)
Vcc=5 V
H=8000 A/m
- High reliability
Ensured through silicon
Nitride protective filming

Structure

Thin-film nickel-cobalt magnetic alloy on silicon substrate

Absolute Maximum Ratings (Ta=25 °C)

• Supply voltage	Vcc	10	V
• Operating temperature	Topr	-40 to +100	°C
• Storage temperature	Tstg	-50 to +125	°C

Recommended Operating Supply voltage 5 V

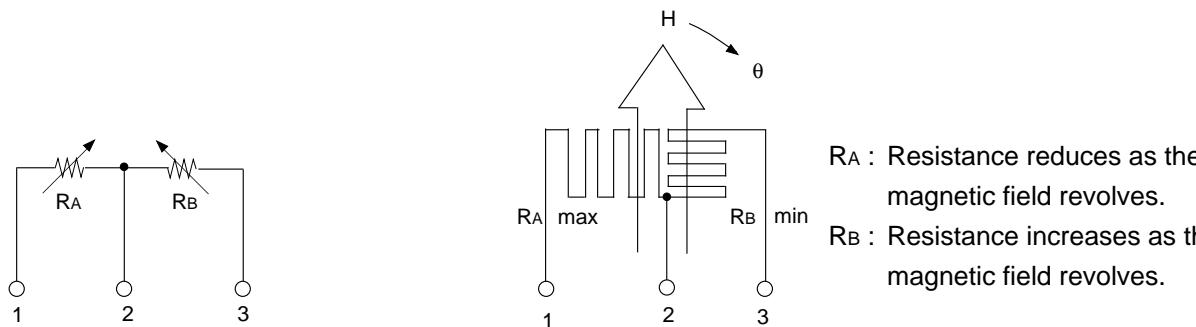
Electrical Characteristics

(Ta=25 °C)

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Total resistance	R _T	VCC=5 V , H=8000 A/m Revoiving magnetic field	1.4	2.3	3.7	kΩ
Midpoint potential	V _c	VCC=5 V , H=8000 A/m Revoiving magnetic field	2.45	2.50	2.55	V
Output voltage	V _o	VCC=5 V , H=8000 A/m Revoiving magnetic field	60	80		mVp-p

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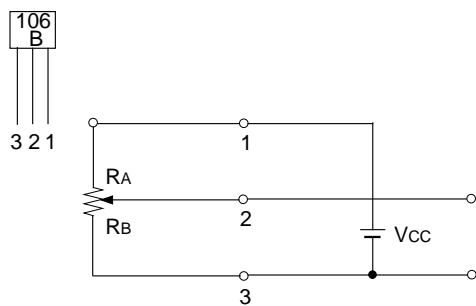
Equivalent Circuit



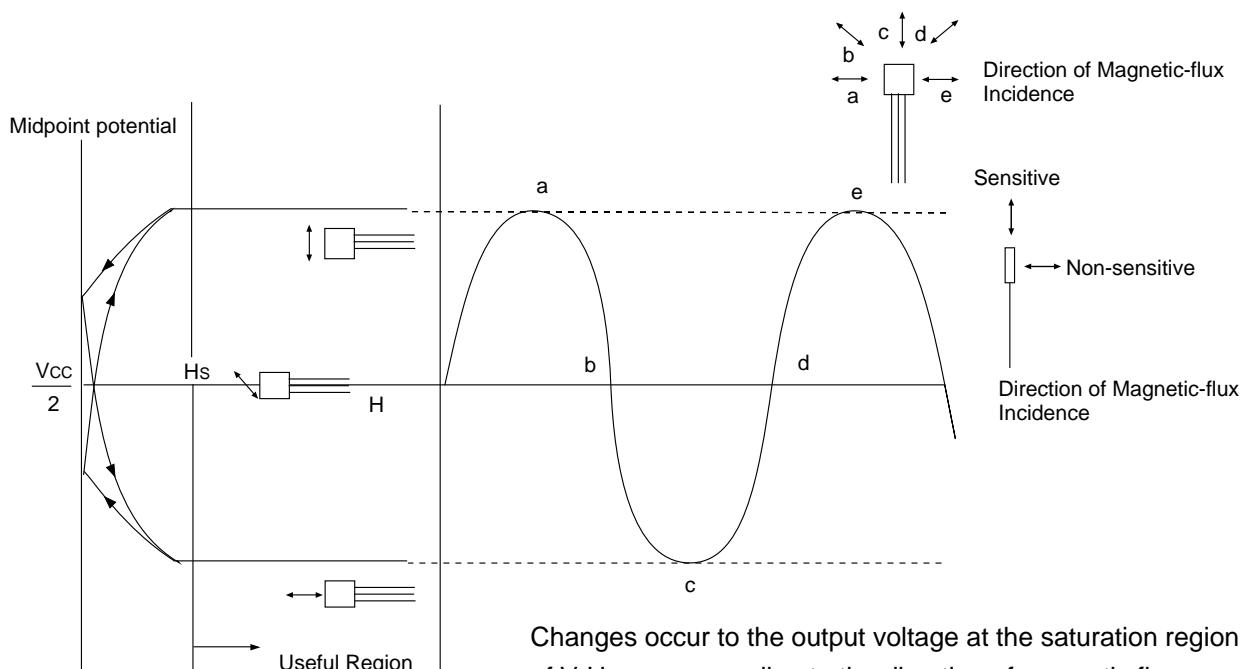
R_A : Resistance reduces as the magnetic field revolves.
 R_B : Resistance increases as the magnetic field revolves.

Introduction

1. Power supplying pin output pin



2. Sensitive direction vs. Midpoint potential



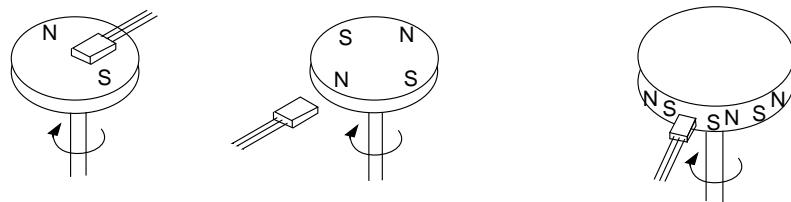
Changes occur to the output voltage at the saturation region of V-H curve according to the direction of magnetic flux.

These changes provide for the operation.

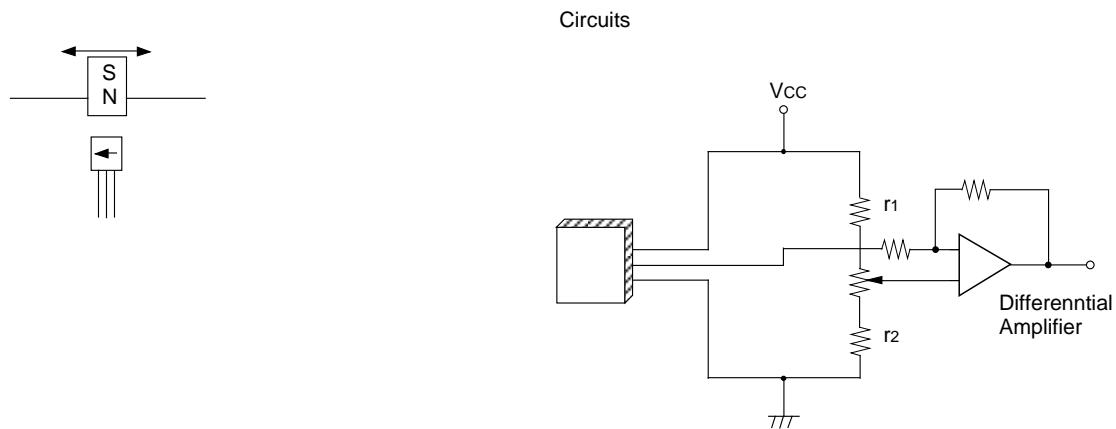
- With one rotation of magnetic flux, signals for 2 periods are obtained.

Applications

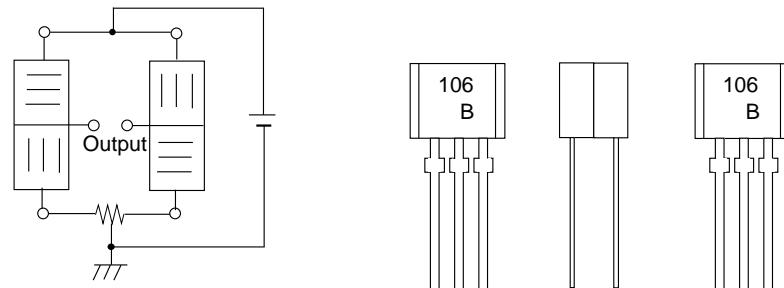
1. Detection of revolution



2. Position detecting



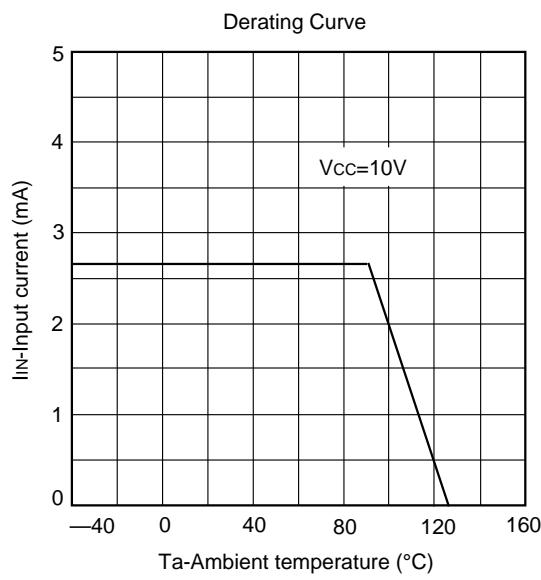
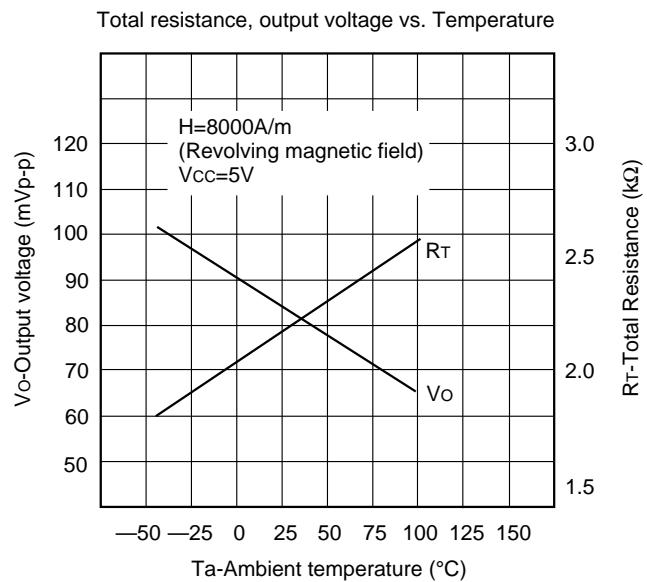
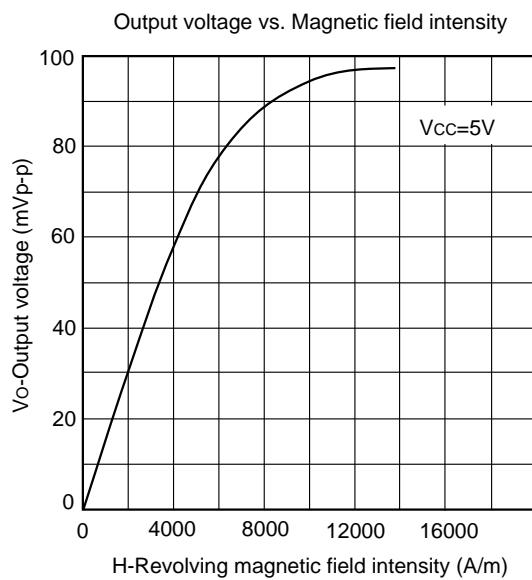
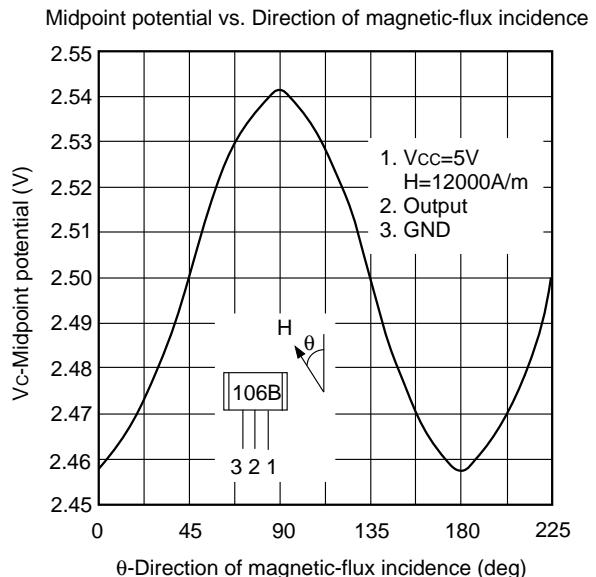
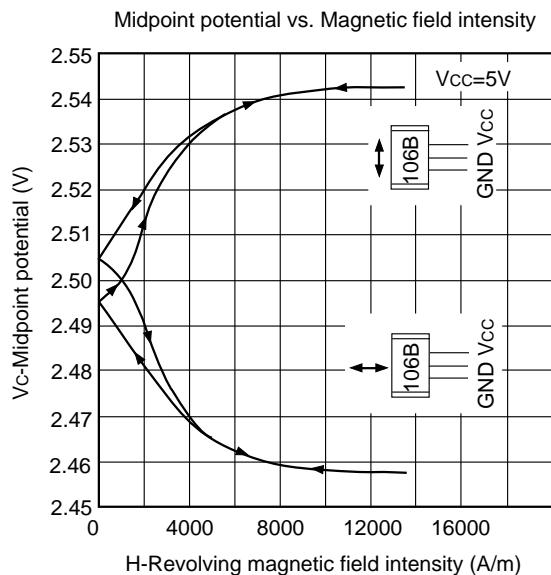
3. Bridge Circuits



By coupling 2 pieces back to back and sticking them together in a gridge, the output voltage is doubled.

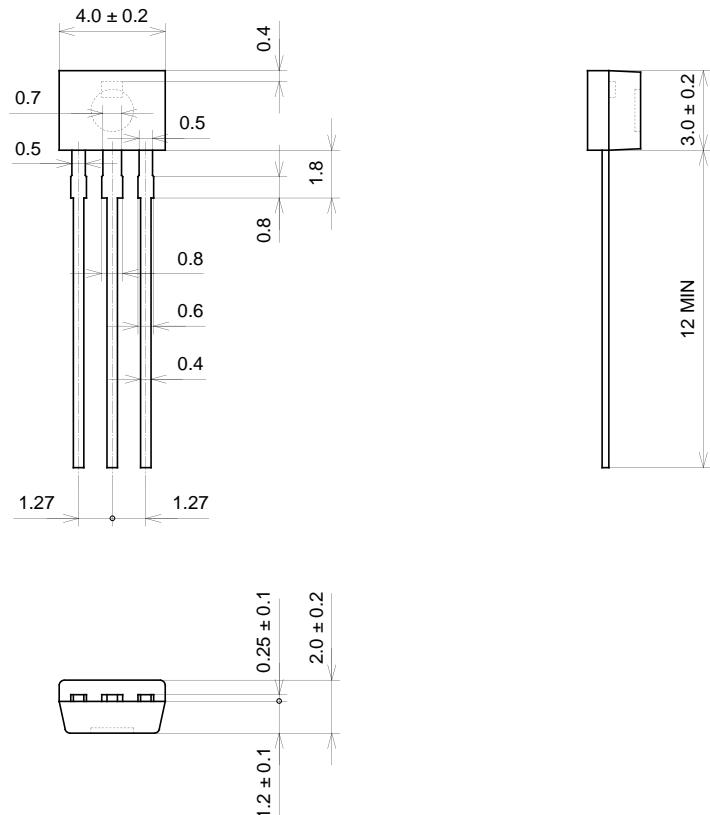
Notes on Application

- Execute the solder to the lead line within 10 seconds at a temperature below 260 °
- To Fix the ELEMENTS : When glue is used, DO NOT apply mechanical stress to the elements.



Package Outline Unit : mm

M-110



SONY CODE	M-110
EIAJ CODE	_____
JEDEC CODE	_____

PACKAGE WEIGHT	0.09g
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