SONY

DM-211

Magnetoresistance Element

T-65-05

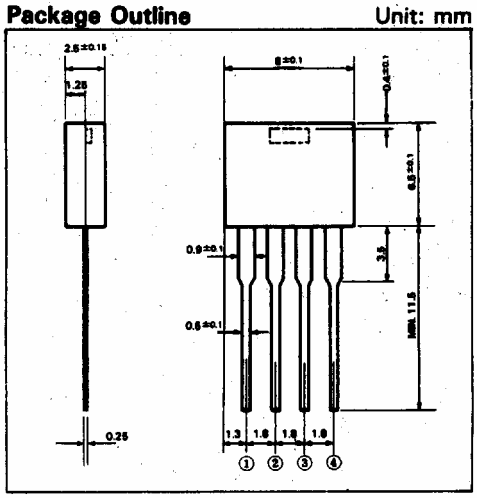
Description

The DM-211 is a highly sensitive magneto resistance element, composed of an evaporated ferromagnetic alloy on a sillicon substrate.

This element can be used for the detection of rotational speed and direction of rotation.
tion.

Package Outline

Unit: mm



Features

- Low magnetic field and high sensitivity
  75mVp-p (Typ.) at Vcc = 5V
  and H = 100 Oe

Absolute Maximum Ratings (Ta = 25°C)

• Supply voltage	Vcc	10	V
• Operating temperature	Topr	−20 to +120	°C
• Storage temperature	Tstg	−50 to +150	°C

Recommended Operating Condition

• Supply voltage	Vcc	5	V

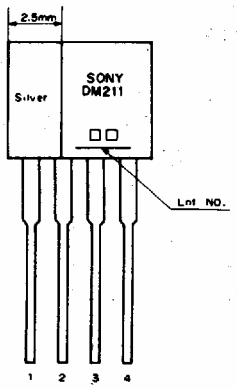
Electrical Characteristics

Ta = 25°C

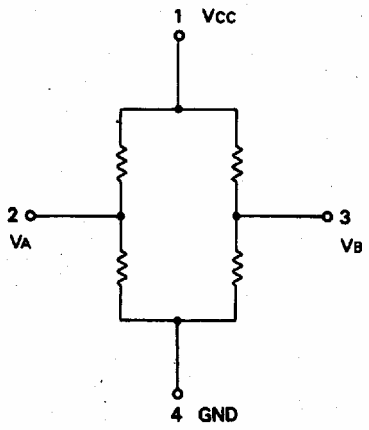
Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Total resistance	R_T	H = 100 Oe θ = 45° Vcc = 5V	1.6		3.0	kΩ
Midpoint potential	V_A, V_B	Revolving magnetic field H = 100 Oe Vcc = 5V	2.475		2.525	V
Midpoint potential difference	$\lvert V_A - V_B \rvert$	Revolving magnetic field H = 100 Oe Vcc = 5V	−25		25	mV
Output voltage	V_{OUT}	Revolving magnetic field H = 100 Oe Vcc = 5V	50	75		mVp-p
FG irregular of rotation		See the Electrical Characteristic Test Circuit (Page 209)		0.03		%

Mark

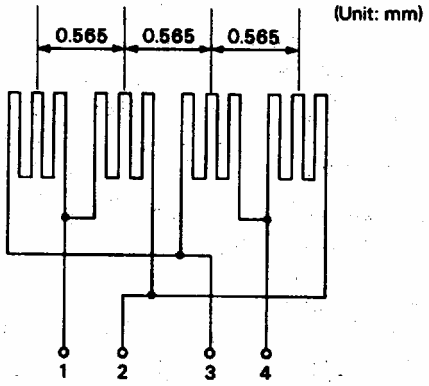
T-65-05



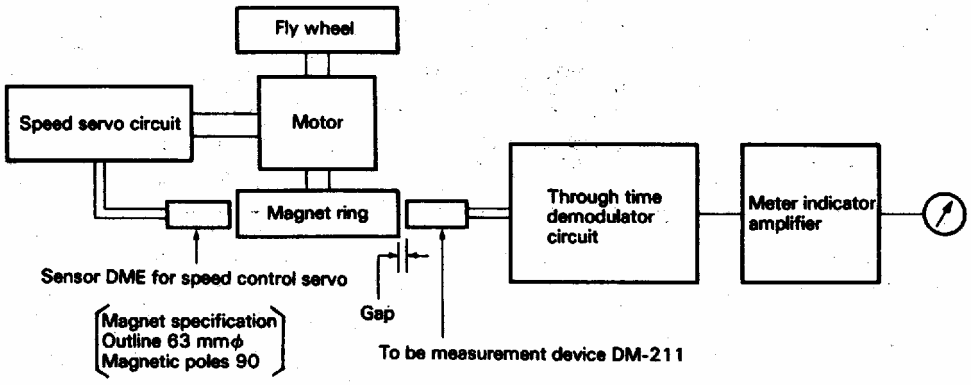
Equivalent Circuit



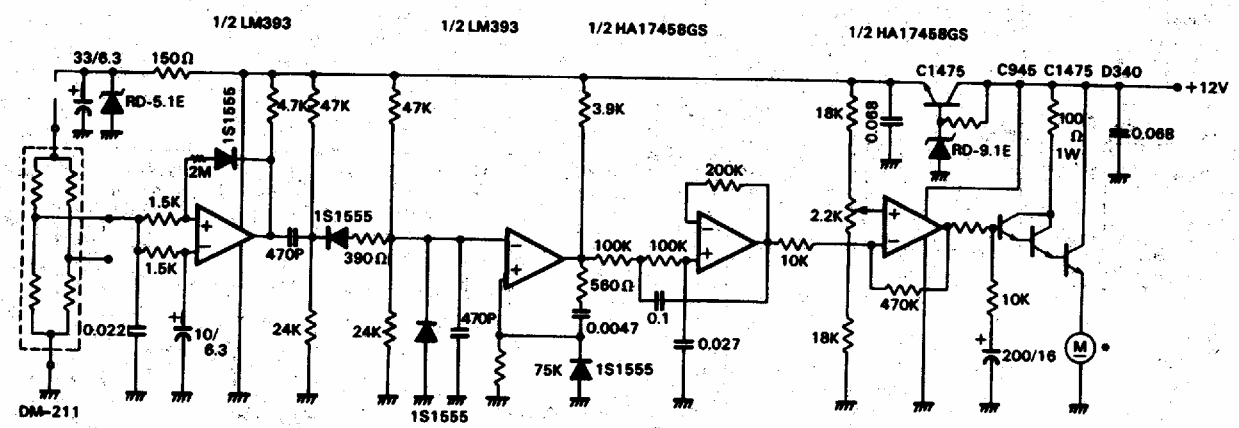
Pattern Layout



FG Irregular of Rotation Test Circuit

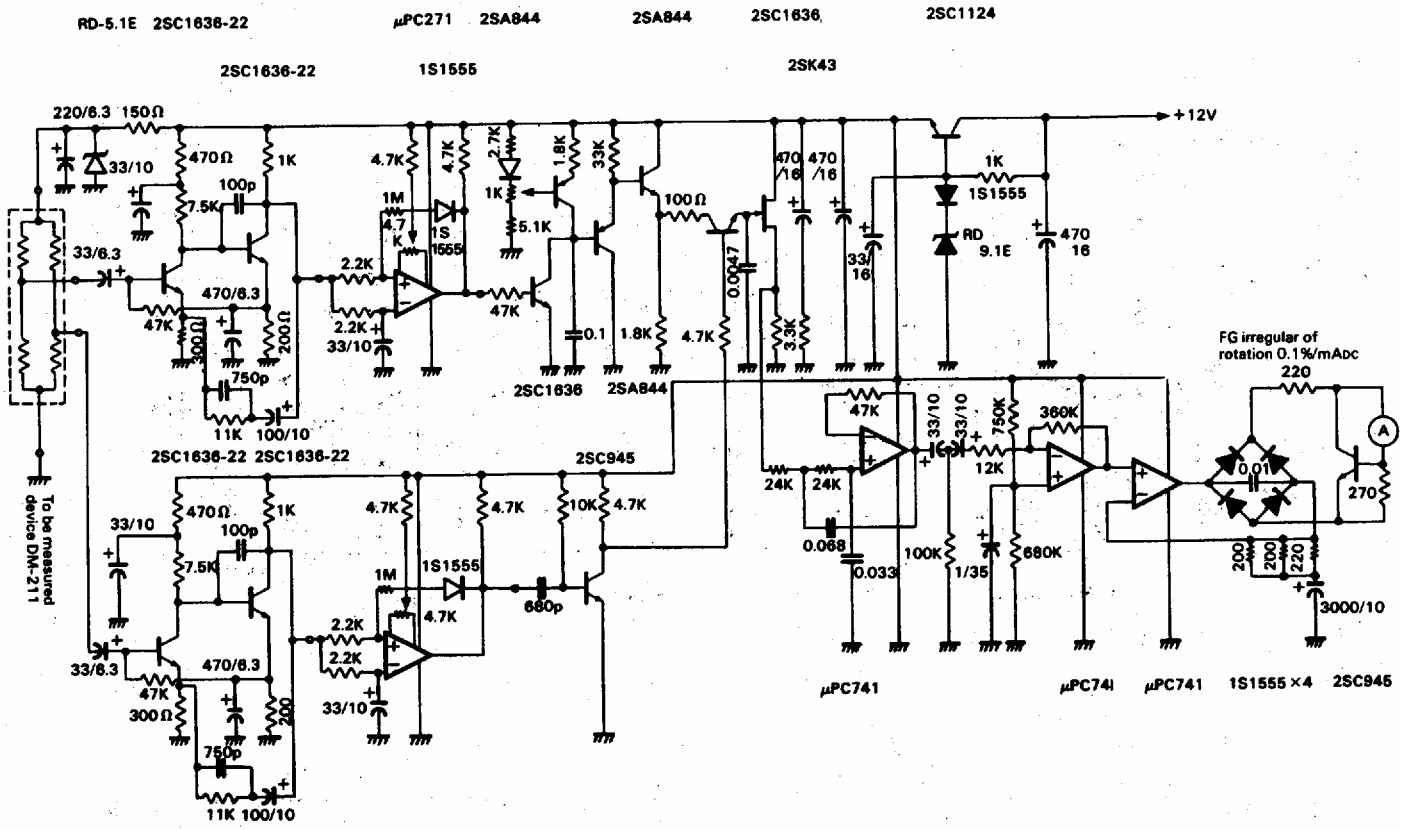


Electrical Characteristic Test Circuit
(Speed servo circuit)

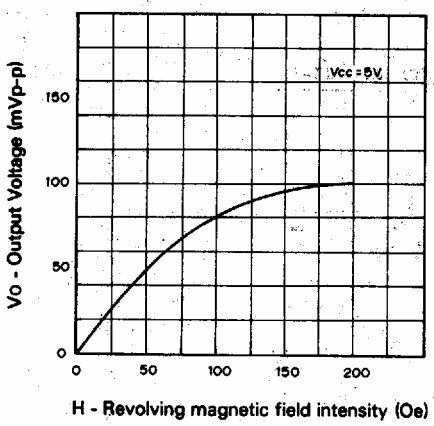


* Motor must be used with fly wheel (I = 12g·Cm·S²)

(Through the Time Demodulator Circuit and Meter Indicator Amplifier Circuit)



Output voltage vs. Magnetic field intensity



Total resistance vs. Ambient temperature