

SONY**DM-211****Magnetoresistance Element**

T-65-05

Description

The DM-211 is a highly sensitive magnetoresistance element, composed of an evaporated ferromagnetic alloy on a silicon substrate.

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

Features

- Low magnetic field and high sensitivity
75mVp-p (Typ.) at $V_{CC} = 5V$
and $H = 100 \text{ Oe}$

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

- Supply voltage V_{CC} 10 V
- Operating temperature T_{opr} -20 to $+120$ $^\circ\text{C}$
- Storage temperature T_{stg} -50 to $+150$ $^\circ\text{C}$

Recommended Operating Condition

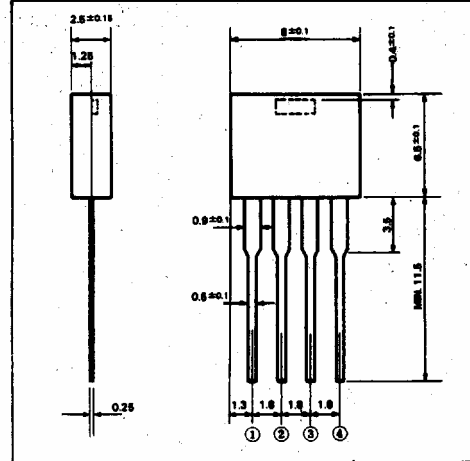
- Supply voltage V_{CC} 5 V

Electrical Characteristics $T_a = 25^\circ\text{C}$

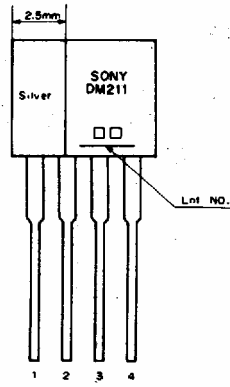
Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Total resistance	R_T	$H = 100 \text{ Oe}$ $\theta = 45^\circ$ $V_{CC} = 5V$	1.6		3.0	$k\Omega$
Midpoint potential	V_A, V_B	Revolving magnetic field $H = 100 \text{ Oe}$ $V_{CC} = 5V$	2.475		2.525	V
Midpoint potential difference	$ V_A - V_B $	Revolving magnetic field $H = 100 \text{ Oe}$ $V_{CC} = 5V$	-25		25	mV
Output voltage	V_{OUT}	Revolving magnetic field $H = 100 \text{ Oe}$ $V_{CC} = 5V$	50	75		mVp-p
FG irregular of rotation		See the Electrical Characteristic Test Circuit (Page 208)		0.03		%

Package Outline

Unit: mm

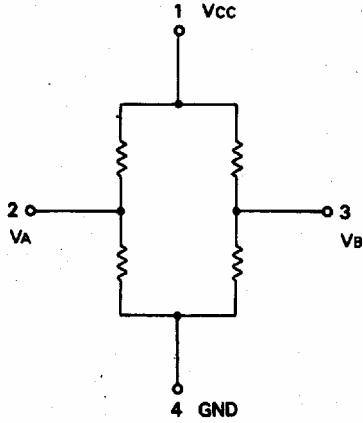


Mark

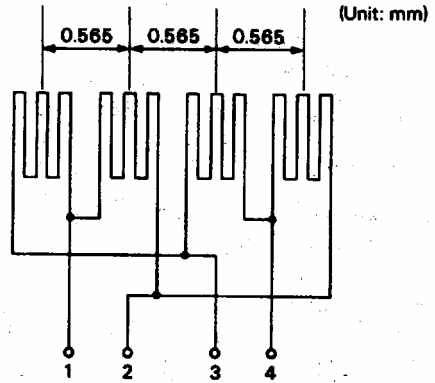


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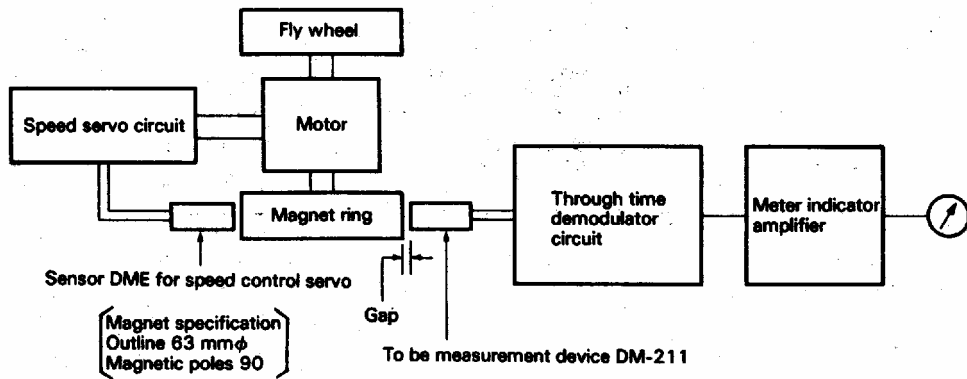
Equivalent Circuit



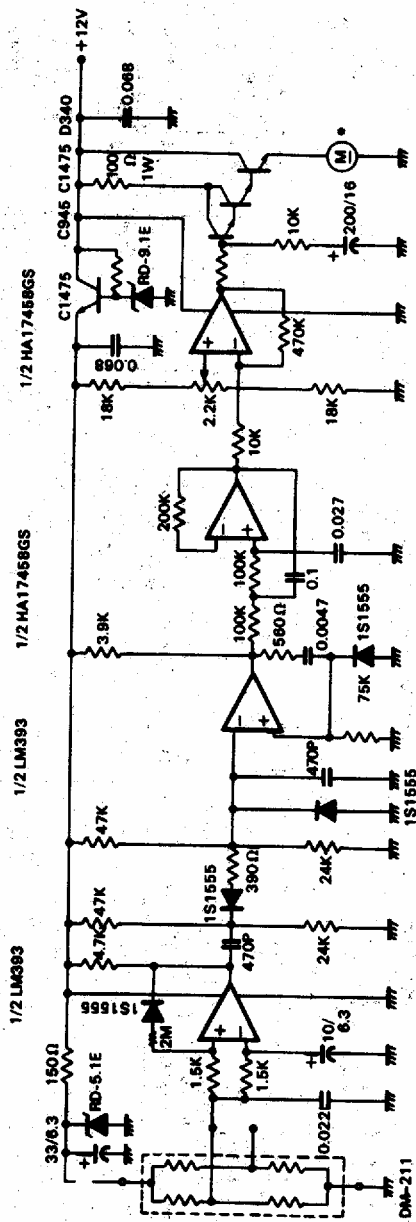
Pattern Layout



FG Irregular of Rotation Test Circuit

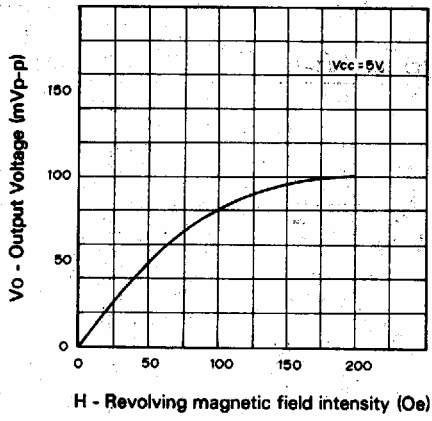


Electrical Characteristic Test Circuit (Speed servo circuit)



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

Output voltage vs. Magnetic field intensity



Total resistance vs. Ambient temperature

