

GaAs ION IMPLANTED PLANAR TYPE

THS103A

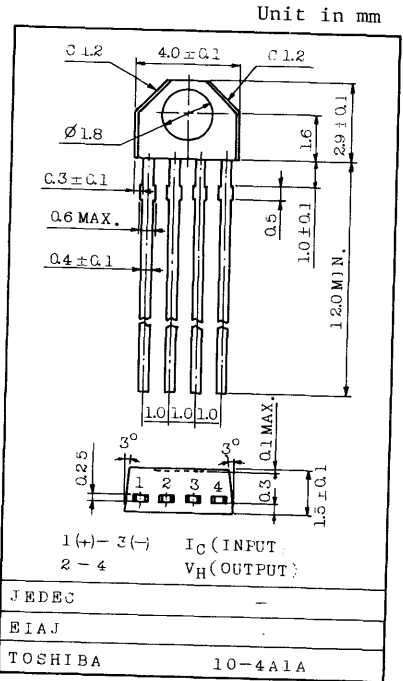
HIGH STABILITY MOTOR CONTROL.
ENERGY SAVING FOR COOLING FAN MOTOR.
DIGITAL TACHOMETER.
CRANK SHAT POSITION SENSOR.

FEATURES:

- Excellent Temperature Characteristics.
- Wide Operating Temperature Range Capability.
(; $-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$)
- Excellent Output Voltage Linearity.
(; up to 15k Gausses)

MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Control Current (DC)	I_C	10	mA
Control Current (Peak)	I_C	15	mA
Operating Temperature Range	T_{op}	$-55 \sim +125$	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	$-55 \sim +150$	$^{\circ}\text{C}$



Weight : 0.085g

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Internal Resistance	R_d	$I_C=5\text{mA}$	450	-	900	Ω
Residual Voltage Ratio	V_{HO}/V_H	$I_C=5\text{mA}, B=0/B=1\text{KG}$	-	-	± 10	%
Hall Voltage (Note 1)	V_H	$I_C=5\text{mA}, B=1\text{KG}$	50	80	120	mV
Temperature Coefficient (Note 2)	V_{HT}	$I_C=5\text{mA}, B=5\text{KG}$ $T_1=25^{\circ}\text{C}, T_2=125^{\circ}\text{C}$	-	-	-0.06	$\%/^{\circ}\text{C}$
Linearity (Note 3)	ΔK_H	$I_C=5\text{mA}, B_1=1\text{KG}, B_2=5\text{KG}$	-	-	2	%

Note 1 : $V_H = V_{HM} - V_{HO}$ (V_{HM} is meter indication)

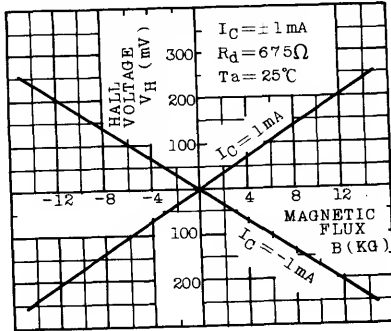
Note 2 : $V_{HT} = \frac{1}{V_H(T_1)} \frac{V_H(T_2) - V_H(T_1)}{T_2 - T_1} \times 100$ (%/ $^{\circ}\text{C}$)

Note 3 : $\Delta K_H = \frac{K_H(B_2) - K_H(B_1)}{1/2(K_H(B_1) + K_H(B_2))} \times 100$ (%), $K_H = \frac{V_H}{I_C \cdot B}$

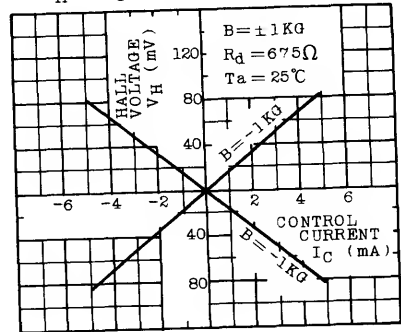
V_{HO} : Residual Voltage

K_H : Product Sensitivity

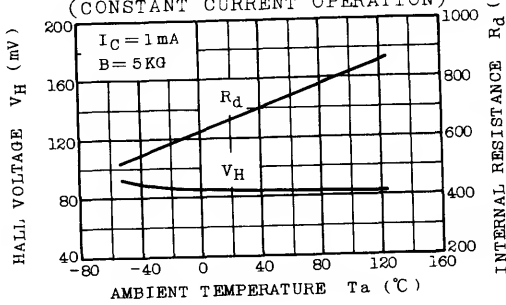
$V_H - B$ CHARACTERISTICS



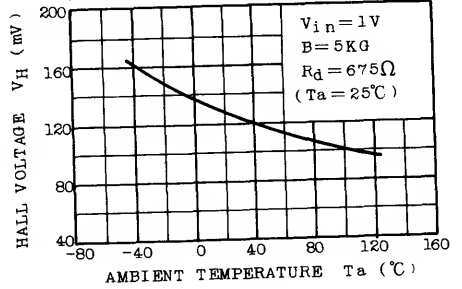
$V_H - I_C$ CHARACTERISTICS



$V_H - T_a, R_d - T_a$ CHARACTERISTICS
(CONSTANT CURRENT OPERATION)



$V_H - T_a$ CHARACTERISTICS
(CONSTANT VOLTAGE OPERATION)



$I_C - T_a$

