

TOSHIBA HALL SENSOR GaAs ION IMPLANTED PLANAR TYPE

THS121

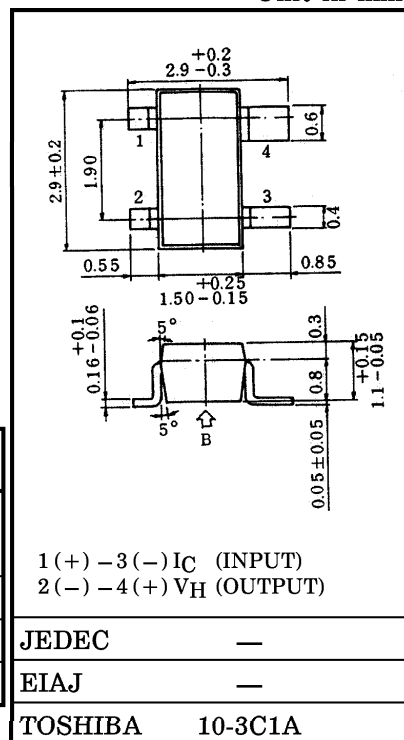
HIGH STABILITY MOTOR CONTROL.
DIGITAL TACHOMETER.
CRANK SHAFT POSITION SENSOR.

Unit in mm

- Excellent Temperature Characteristics.
- Wide Operating Temperature Range. (; -55~125°C)
- Excellent Output Voltage Linearity.
- High Specific Sensitivity. : $K^* = 38 \times 10^{-2} / T$ (Typ.)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Control Current	DC	I _C	10	mA
	1s		15	
Power Dissipation		P _D	150	mW
Operating Temperature Range		T _{opr}	-55~125	°C
Storage Temperature Range		T _{stg}	-55~150	°C



Weight : 0.013g

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Internal Resistance (Input)	R _d	I _C = 5mA	450	—	900	Ω
Residual Voltage Ratio	V _{HO} / V _H	I _C = 5mA, B = 0 / B = 0.1T	—	—	±10	%
Hall Voltage (Note 1)	V _H	I _C = 5mA, B = 0.1T	80	—	190	mV
Temperature Coefficient (Note 2)	V _{HT}	I _C = 5mA, B = 0.1T T ₁ = 25°C, T ₂ = 125°C	—	—	-0.06	% / °C
Linearity (Note 3)	ΔK _H	I _C = 5mA, B ₁ = 0.05T, B ₂ = 0.1T	—	—	2	%
Specific Sensitivity (Note 4)	K*	I _C = 5mA, B = 0.1T	—	38	—	× 10 ⁻² / T
Internal Resistance (Output)	R _{OUT}	I _C = 1mA	—	—	3200	Ω

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

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

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

Note 4 : $K^* = V_H / (R_d \times I_C \times B) = K_H / R_d$

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