

# THS122

HIGH STABILITY MOTOR CONTROL. DIGITAL TACHOMETER.

CRANK SHAFT POSITION SENSOR.

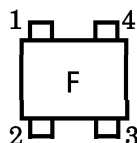
- Super Small Package.
- Excellent Temperature Characteristics.
- Wide Operating Temperature Range. ( ;  $-55\sim 125^{\circ}\text{C}$ )
- Excellent Output Voltage Linearity.
- High Specific Sensitivity. :  $K^*=38\times 10^{-2}/T$  (Typ.)

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

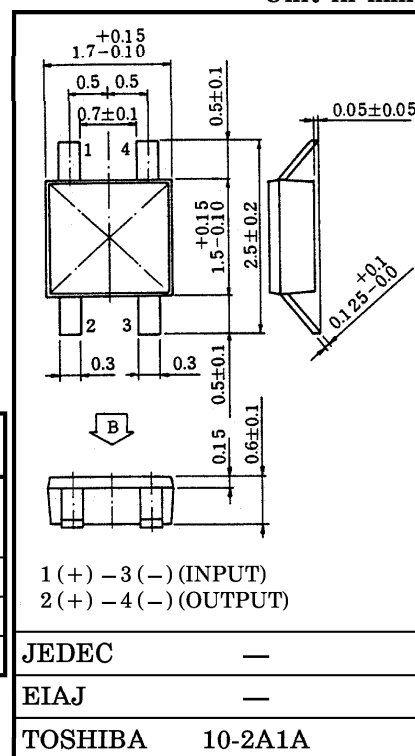
| CHARACTERISTIC              |    | SYMBOL    | RATING        | UNIT               |
|-----------------------------|----|-----------|---------------|--------------------|
| Control Current             | DC | $I_C$     | 10**          | mA                 |
|                             | 1s |           | 15**          |                    |
| Power Dissipation           |    | $P_D$     | 100**         | mW                 |
| Operating Temperature Range |    | $T_{opr}$ | $-55\sim 125$ | $^{\circ}\text{C}$ |
| Storage Temperature Range   |    | $T_{stg}$ | $-55\sim 150$ | $^{\circ}\text{C}$ |

\*\* Mounted on a printed circuit board.

Marking



Unit in mm

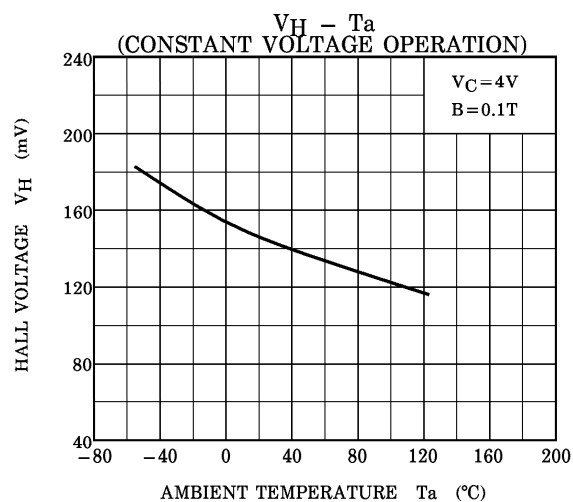
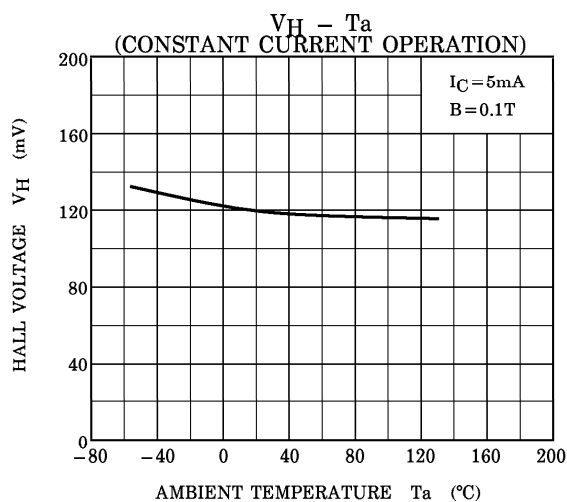
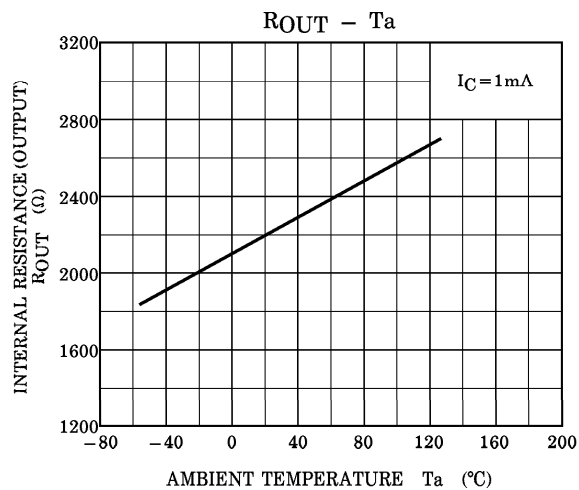
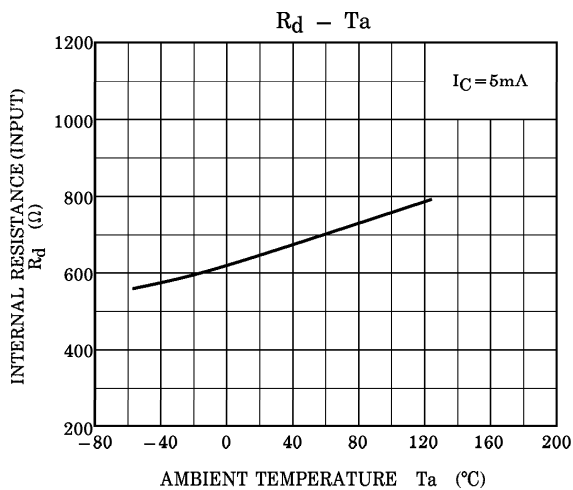
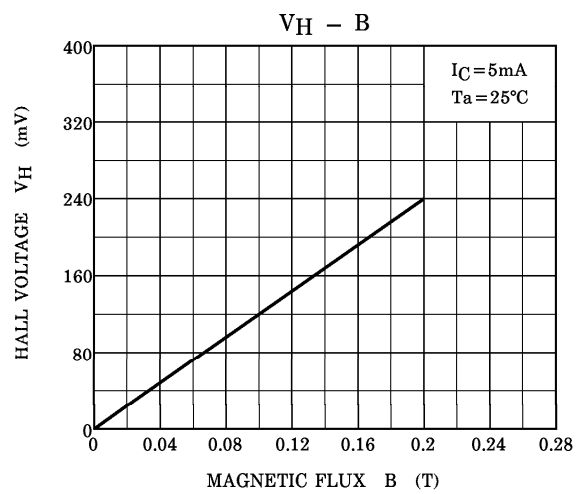
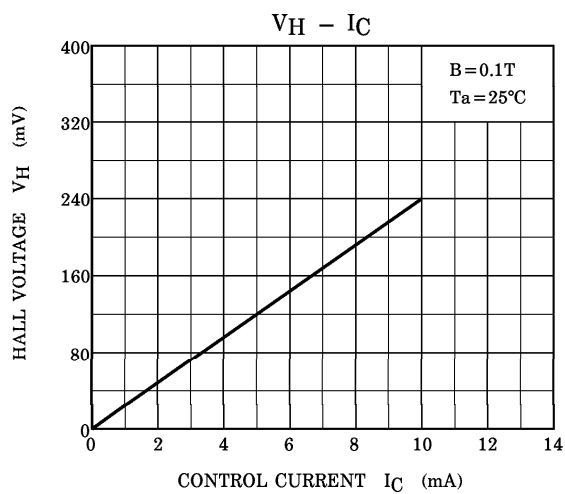


Weight : 0.0047g

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

| CHARACTERISTIC                   | SYMBOL       | TEST CONDITION                                                                                     | MIN. | TYP. | MAX.     | UNIT                  |
|----------------------------------|--------------|----------------------------------------------------------------------------------------------------|------|------|----------|-----------------------|
| Internal Resistance (Input)      | $R_d$        | $I_C = 5\text{mA}$                                                                                 | 450  | —    | 900      | $\Omega$              |
| Residual Voltage Ratio           | $V_{HO}/V_H$ | $I_C = 5\text{mA}$ , $B = 0 / B = 0.1\text{T}$                                                     | —    | —    | $\pm 10$ | %                     |
| Hall Voltage (Note 1)            | $V_H$        | $I_C = 5\text{mA}$ , $B = 0.1\text{T}$                                                             | 80   | —    | 190      | mV                    |
| Temperature Coefficient (Note 2) | $V_{HT}$     | $I_C = 5\text{mA}$ , $B = 0.1\text{T}$<br>$T_1 = 25^{\circ}\text{C}$ , $T_2 = 125^{\circ}\text{C}$ | —    | —    | -0.06    | %/ $^{\circ}\text{C}$ |
| Linearity (Note 3)               | $\Delta K_H$ | $I_C = 5\text{mA}$ , $B_1 = 0.05\text{T}$ , $B_2 = 0.1\text{T}$                                    | —    | —    | 2        | %                     |
| Specific Sensitivity (Note 4)    | $K^*$        | $I_C = 5\text{mA}$ , $B = 0.1\text{T}$                                                             | —    | 38   | —        | $\times 10^{-2}/T$    |
| Internal Resistance (Output)     | $R_{OUT}$    | $I_C = 1\text{mA}$                                                                                 | —    | —    | 3200     | $\Omega$              |

Note 1 :  $V_H = V_{HM} - V_{HO}$  ( $V_{HM}$  is meter indication)Note 2 :  $V_{HT} = \frac{1}{V_H(T_1)} \cdot \frac{V_H(T_2) - V_H(T_1)}{T_2 - T_1} \times 100 (\% / ^{\circ}\text{C})$   $V_{HO}$  : Residual VoltageNote 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 SensitivityNote 4 :  $K^* = V_H / (R_d \times I_C \times B) = K_H / R_d$



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