GaAs Type Hall Element

Product Information

Model: GaAs

Description:

1. Features：

* High stability type Hall element by GaAs film.

* Good linearity output voltage.

* Small size package suitable for compact application.

* Symmetrical terminal layout allows the same electrical characteristics with 180˚ horizontally rated application.

2. Application：

* Current sensors.

* Small brushless DC motors in industrial applications.

* Noncontacting sensors.

* Other magnetic flux sensors.

3. Electrical Characteristics：

Item	Symbol	Rank		
		A	B	C
Model：SHE-GA201T				
Hall Output Voltage	V_H(mV)	24～33	24～33	24～33
Offset Voltage Ratio	V_0/V_H(%)	0～±5	±5～±10	±10～±15
Input Resistance	Rin(Ω)	650～1000	650～	650～1000
Output Resistance	Rout(Ω)	3000max	3000max	3000max
Model：SHE-GA202T				
Hall Output Voltage	V_H(mV)	24～34	24～34	24～34
Offset Voltage Ratio	V_0/V_H(%)	0～±5	±5～±10	±10～±15
Input Resistance	Rin(Ω)	500～900	500～900	500～900
Output Resistance	Rout(Ω)	1200～2200	1200～2200	1200～2200

		Model：SHE-GA201T		
Hall Output Voltage	V_H(mV)	17～23	17～23	17～23
Offset Voltage Ratio	V_0/V_H(%)	0～±5	±5～±10	±10～±15
Input Resistance	Rin(Ω)	400～600	400～600	400～600
Output Resistance	Rout(Ω)	400～600	400～600	400～600

4. Conditions

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Hall Output Voltage	V_H ※1	Vc=1v B=1000G(100mT)	—	—	—	mV
Offset Voltage Ratio	V_0/V_H	Vc=1V B=0G(0mT)	—	—	—	%
Input Resistance	Rin	Ic=1mA B=0G(0mT)	—	—	—	Ω
Output Resistance	Rout	Ic=1mA B=0G(0mT)	—	—	—	Ω
Hall Output Voltage Temperature Coefficient	αV_H ※2	Ic=5mA B=1000G(100mT) T1=25℃ T2=125℃	—	-0.06	—	%/℃
Input Resistance Temperature Coefficient	β-Ri	Ic=1mA B=0G(0mT T1=25℃ T2=125℃	—	0.3	—	%/℃
Linearity	ɣ ※4	Ic=5mA,B1=1kG	—	—	2	%

		B2=5kG				

Vc：Power Voltage; Ic：Power Current; B：Flux Density

※1：$V_H=V_{HM}-V_O$；V_{HM}：Output Voltage

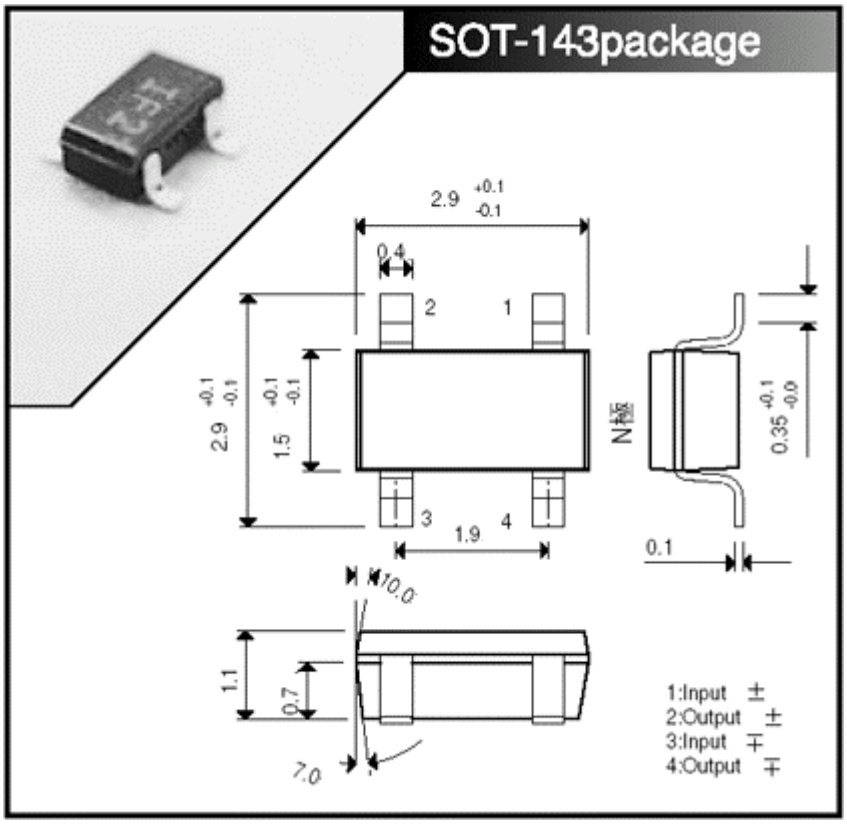
※2：α $V_H=[1/V_H(T1)]\times[V_H(T1)-V_H(T2)]\times[1/(T1-T2)]\times100$

※3：β -Ri=[1/Rin(T1)]×[Rin(T1)-Rin(T2)]×[1/(T1-T2)]×100

※4：γ $=(K_{H2}-K_{H1})/[(K_{H1}+K_{H2})/2]\times100$ $K_{H1}=V_H(B1)/(Ic\times B1)$；$K_{H2}=V_H(B2)/(Ic\times B2)$

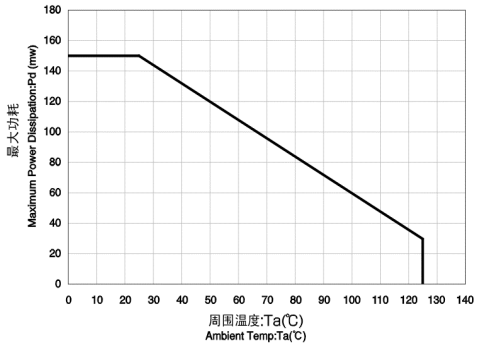
5. Absolute Maximum Ratings

Item	Symbol	Limit	Unit
Max. Input Current	Ic max	15(at25℃)	mA
Power Dissipation	Pd	150	mW
Operating Temp. Range	Topr	-40～125	℃
Storage Temp. Range	Tstg	-50～150	℃

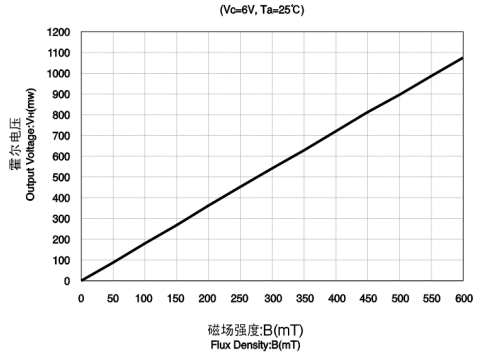


特性曲线图 *Characteristics Curve*

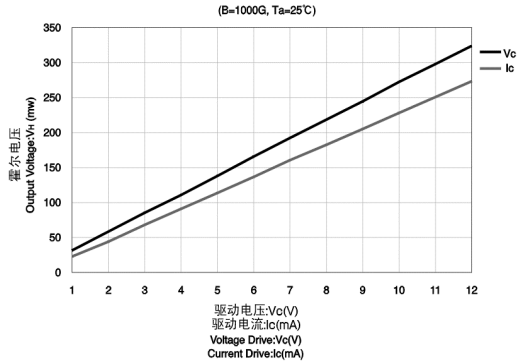
Pd-Ta



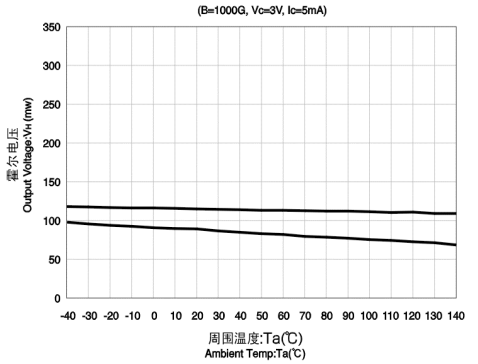
VH-B



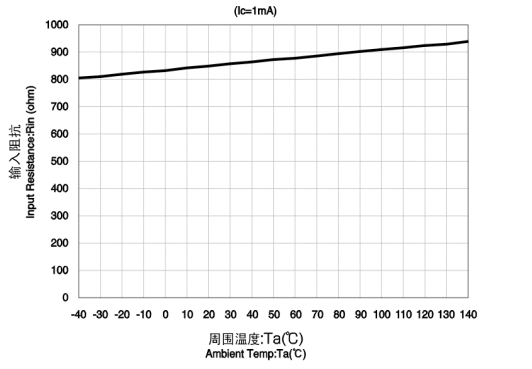
VH-Vc



VH-Ta



Rin-Ta



Rout-Ta