

ELM2SA8570CA PNP Epitaxial planar transistor

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■General description

ELM2SA8570CA is designed for general purpose switching and amplification applications.

■Features

- Low current : $I_c(\text{max.}) = -200\text{mA}$
- Low voltage : $BV_{ce0} = -50\text{V}$
- Package : SOT-23

■Maximum absolute ratings

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

Parameter	Symbol	Limit	Unit
Collector-base voltage	V_{cb0}	-50	V
Collector-emitter voltage	V_{ce0}	-50	V
Emitter-base voltage	V_{eb0}	-6	V
Collector current (DC)	I_c	-200	mA
Collector current (Pulse)	I_{cp}	-500	mA
Base current (Pulse)	I_{bp}	-200	mA
Power dissipation	P_d	250	mW
Thermal resistance, junction-to-ambient	$R_{\theta ja}$	500	$^\circ\text{C/W}$
Operating junction temperature range	T_j	-55 to +150	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55 to +150	$^\circ\text{C}$

■Selection guide

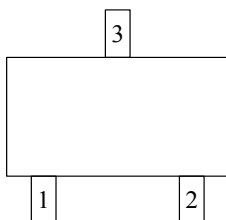
ELM2SA8570CA-S

Symbol		
a	Product name	ELM2SA8570
b	Package	C : SOT-23
c	Product version	A
d	Taping direction	S: Please refer to page 7

ELM2SA8570 C A - S
↑ ↑ ↑
a b c d

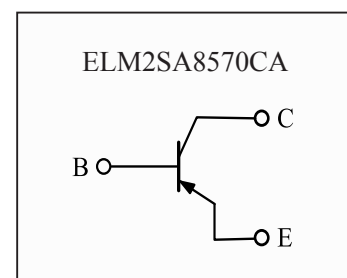
■Pin configuration

SOT-23(TOP VIEW)



Pin No.	Pin name	Pin description
1	B	Base
2	E	Emitter
3	C	Collector

■Standard circuit



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■Electrical characteristics

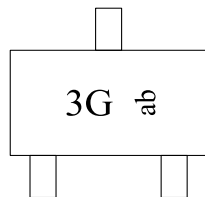
Ta=25°C

Symbol	Condition	Min.	Typ.	Max.	Unit
BVcbo	Ic=-100μA	-50	-	-	V
BVceo	Ic=-1mA	-50	-	-	V
BVebo	Ie=-10μA	-6	-	-	V
Icbo	Vcb=-30V	-	-	-15	nA
Iebo	Veb=-6V	-	-	-100	nA
*Vce(sat) 1	Ic=-10mA, Ib=-0.5mA	-	-72	-200	mV
*Vce(sat) 2	Ic=-100mA, Ib=-5mA	-	-220	-400	mV
*Vbe(sat) 1	Ic=-10mA, Ib=-0.5mA	-	-700	-	mV
*Vbe(sat) 2	Ic=-100mA, Ib=-5mA	-	-830	-	mV
*Vbe(on) 1	Vce=-5V, Ic=-2mA	-600	-640	-750	mV
*Vbe(on) 2	Vce=-5V, Ic=-10mA	-	-	-770	mV
*Hfe	Vce=-5V, Ic=-2mA	420	-	800	-
ft	Vce=-5V, Ie=-10mA, f=100MHz	100	-	-	MHz
Cob	Vcb=-10V, Ie=0A, f=1MHz	-	3.7	-	pF

* Pulse test: Pulse width ≤ 380μs, duty cycle ≤ 2%.

■Marking

SOT-23

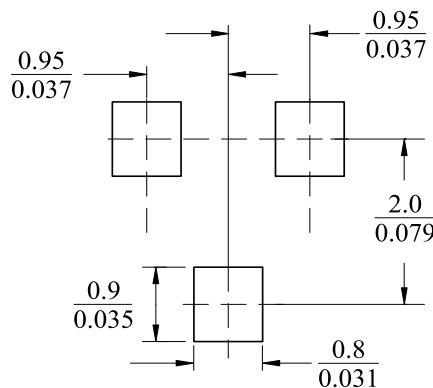


Mark	Content
3G	Product code
a b	Date code

■Shipping

- 3000 pcs / Tape & Reel

■Recommended soldering footprint



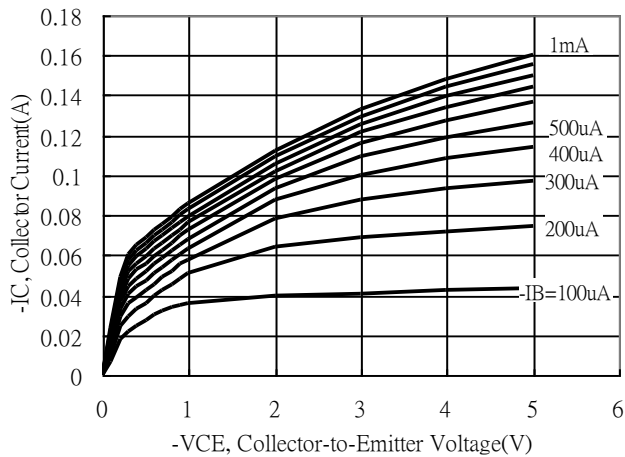
Unit : $\frac{\text{mm}}{\text{inches}}$

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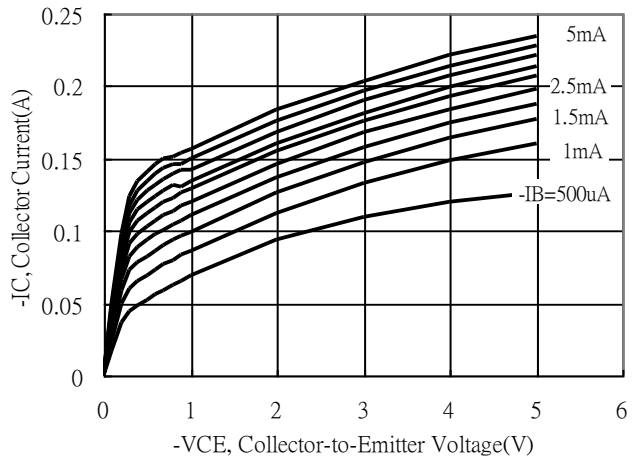
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■ Typical characteristics

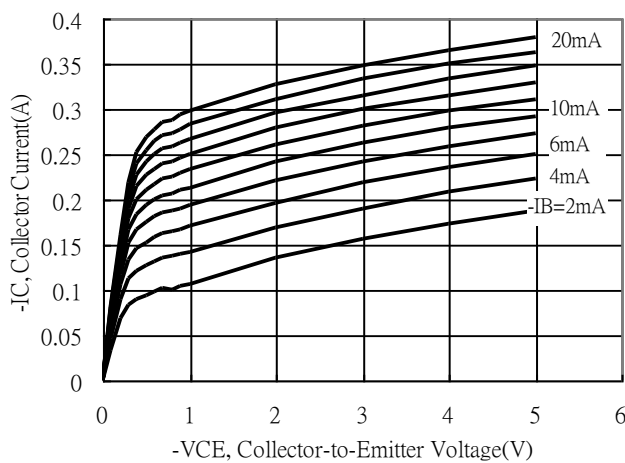
Emitter Grounded Output Characteristics



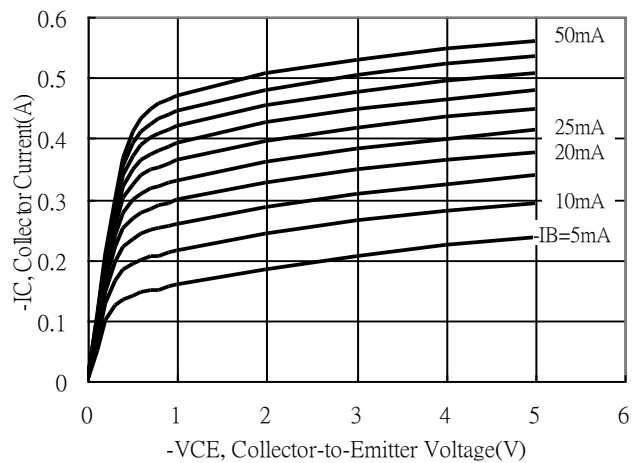
Emitter Grounded Output Characteristics



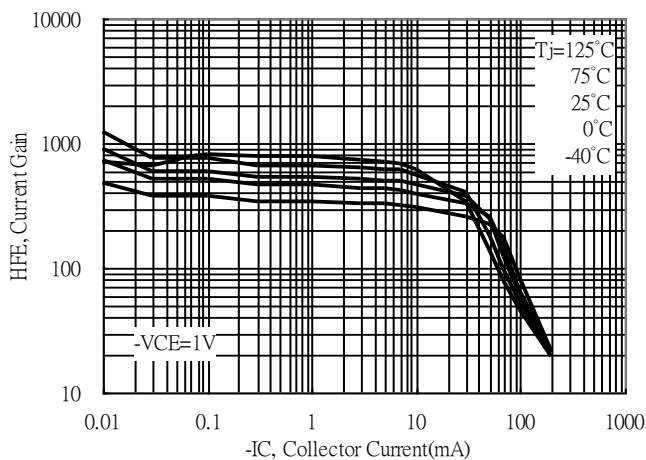
Emitter Grounded Output Characteristics



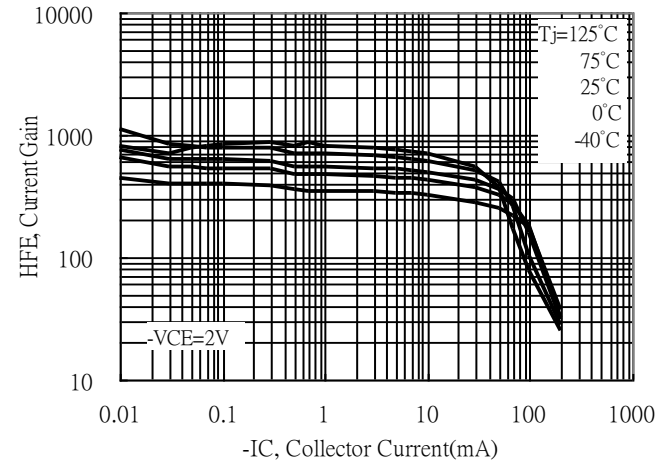
Emitter Grounded Output Characteristics



Current Gain vs. Collector Current

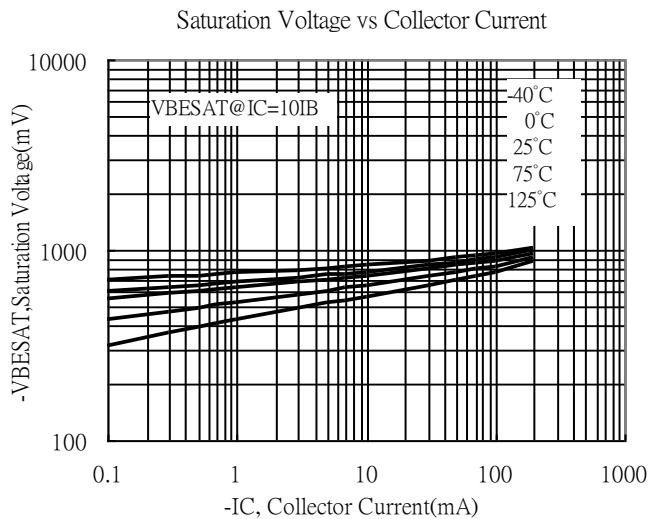
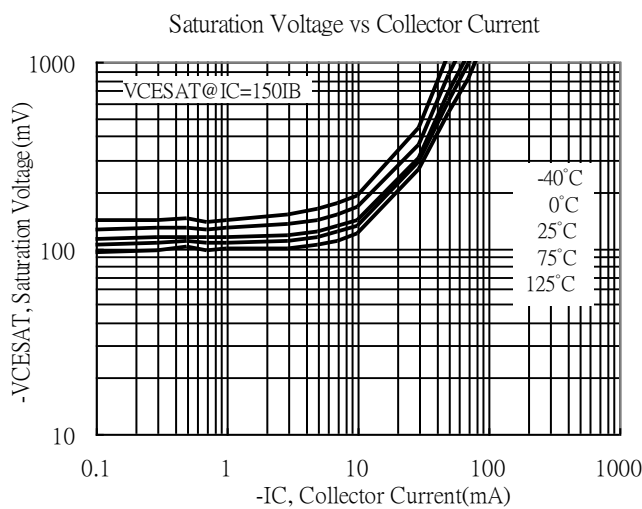
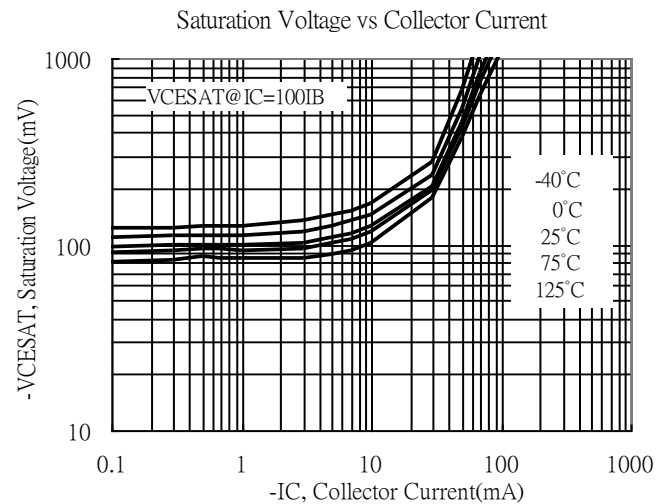
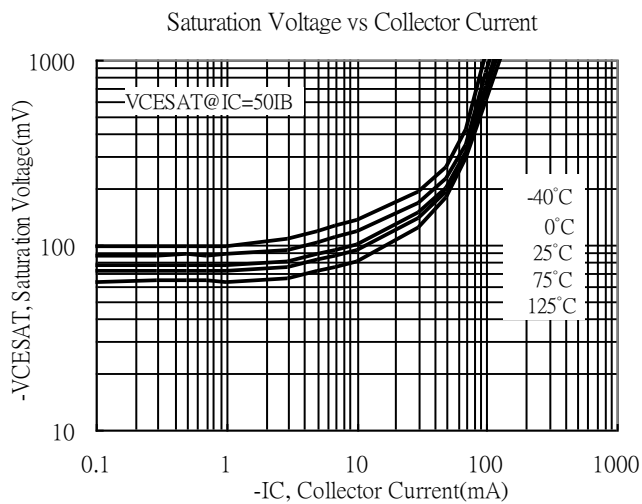
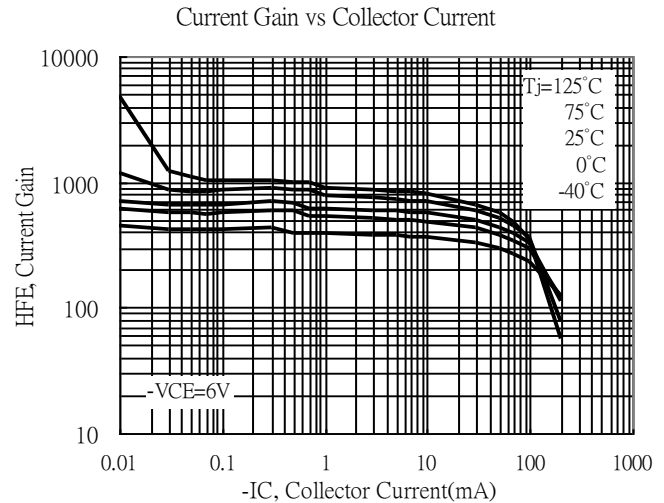
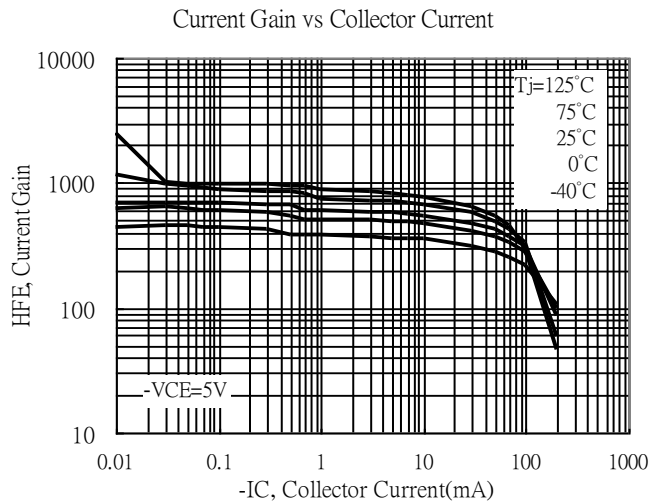


Current Gain vs. Collector Current



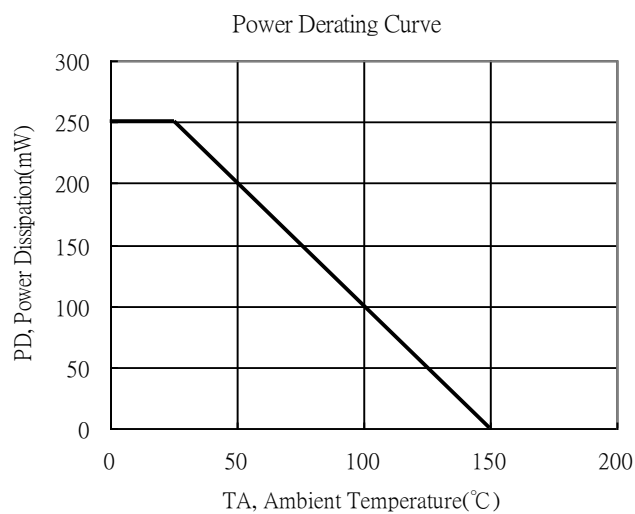
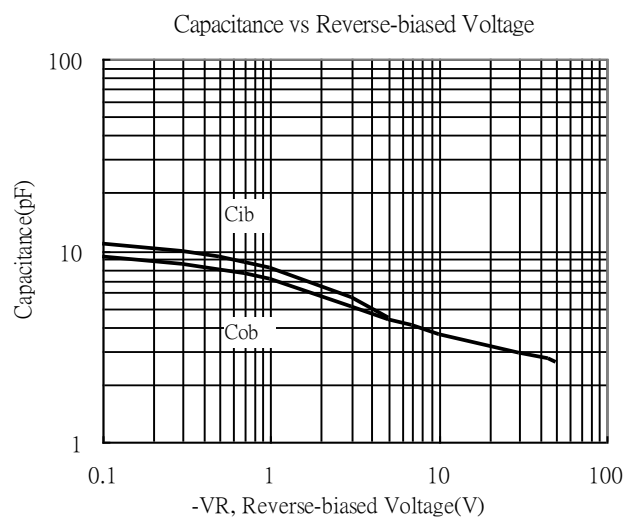
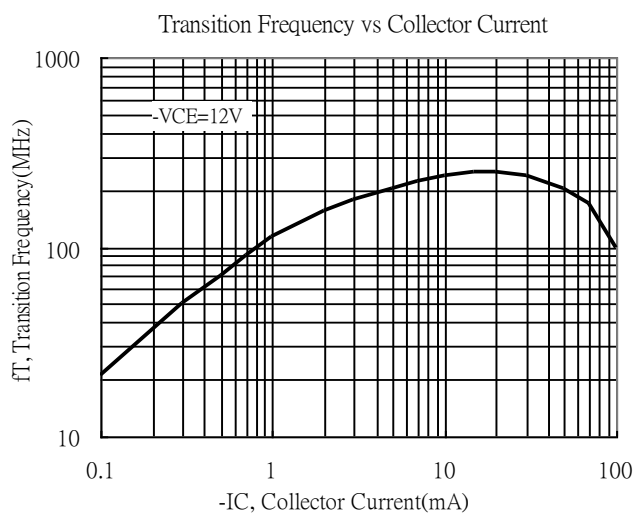
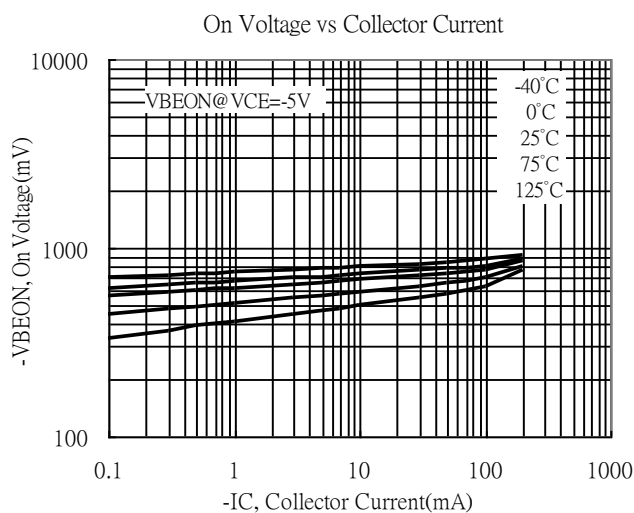
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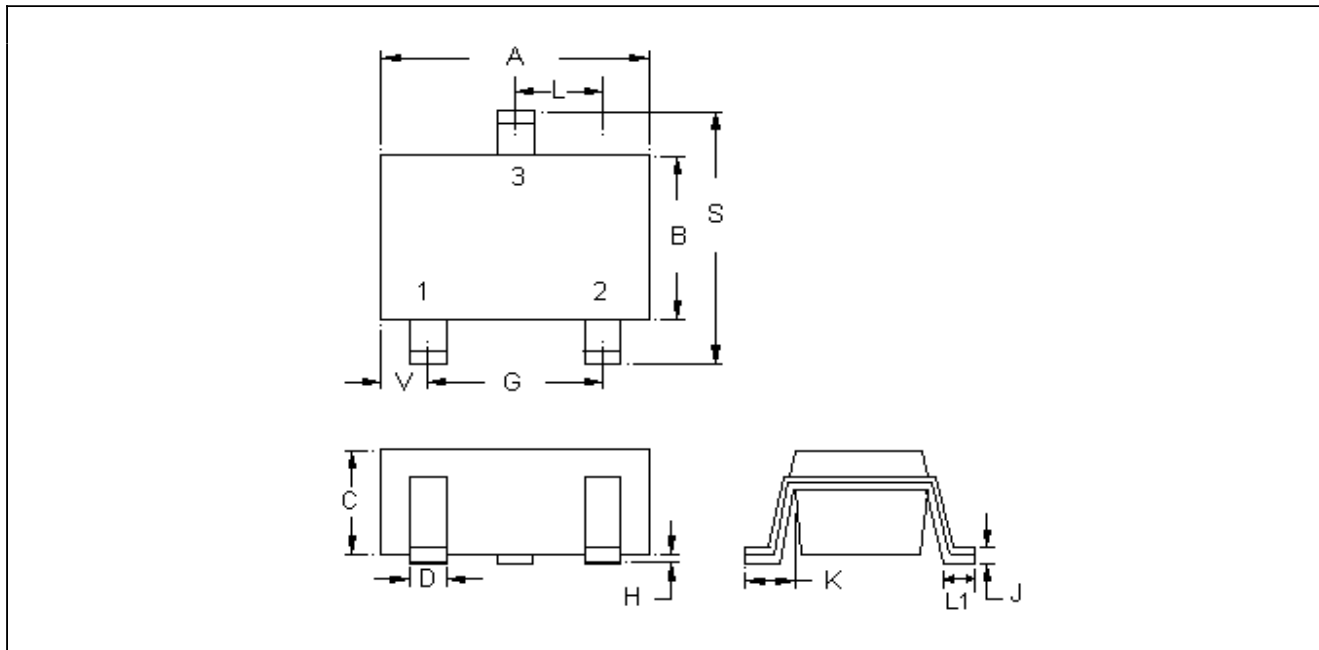
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■SOT-23 dimension



* Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1102	0.1204	2.80	3.04	J	0.0032	0.0079	0.08	0.20
B	0.0472	0.0669	1.20	1.70	K	0.0118	0.0266	0.30	0.67
C	0.0335	0.0512	0.89	1.30	L	0.0335	0.0453	0.85	1.15
D	0.0118	0.0197	0.30	0.50	S	0.0830	0.1161	2.10	2.95
G	0.0669	0.0910	1.70	2.30	V	0.0098	0.0256	0.25	0.65
H	0.0000	0.0040	0.00	0.10	L1	0.0118	0.0197	0.30	0.50

Notes : 1. Controlling dimension : millimeters.

2. Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.

Material :

- Lead : Pure tin plated.
- Mold Compound : Epoxy resin Family, flammability solid burning class: UL94V-0.

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- Reel



Technical drawing of a sprocket carrier. The drawing includes a side view and two section views: Section A-A and Section B-B.

Dimensions:

- Top left: 0.22 ± 0.02
- Top left: 0.6
- Top left: R_0
- Top left: K_0
- Top center: $1.5 \pm 0.1 \pm 0$
- Top center: 4.0 ± 0.1
- Top center: 2 ± 0.05 See Note 6
- Top center: See Note 1
- Top right: 1.75 ± 0.1
- Top right: 3.5 ± 0.05 See Note 5
- Top right: $8 \pm 0.3 \pm 0.1$
- Bottom center: 0.2 Max
- Bottom right: 1.0 ± 0.1
- Bottom right: $A_0 = 3.10 \pm 0.15$
- Bottom right: $B_0 = 2.78 \pm 0.12$
- Bottom right: $K_0 = 1.22 \pm 0.1$

Section A-A: Shows the side view of the sprocket carrier with dimensions 0.22 ± 0.02 , 0.6 , R_0 , K_0 , and 1.0 ± 0.1 .

Section B-B: Shows the cross-section of the sprocket carrier with dimensions $1.5 \pm 0.1 \pm 0$, 4.0 ± 0.1 , 2 ± 0.05 See Note 6, See Note 1, 1.75 ± 0.1 , 3.5 ± 0.05 See Note 5, $8 \pm 0.3 \pm 0.1$, 0.2 Max , and 1.0 ± 0.1 .

Notes:

1. 10 sprocket hole pitch cumulative tolerance ± 0.2 .
2. Camder not to exceed 1mm in 100mm.
3. Material : conductive Black Polystyrene.
4. A_0 & B_0 measured on a plane 0.3mm above the bottom of the pocket.
5. K_0 measured from a plane on the inside bottom of pocket to the top surface of the carrier.
6. Pocket position relative to sprocket hole measured as true position of pocket, not pocket hole.

Unit : millimeter