

# ELM2SC4081BA General purpose NPN epitaxial planar transistor

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## ■General description

ELM2SC4081BA is designed for using in driver stage of AF amplifier and general purpose switching application.

## ■Features

- Low Cob : Typ.2.0pF
- Package : SOT-23
- AEC-Q101 qualified.

## ■Maximum absolute ratings

Parameter	Symbol	Limit	Unit
Collector-base voltage	Vcbo	60	V
Collector-emitter voltage	Vceo	50	V
Emitter-base voltage	Vebo	7	V
Collector current	Ic	200	mA
Power dissipation	Pd	225	mW
Thermal resistance, Junction to ambient	Rθja	556	°C/W
Operating junction temperature range	Tj	-55 to +150	°C
Storage temperature range	Tstg	-55 to +150	°C

## ■Classification of Hfe

Rank	RA
Range	180~390

## ■Selection guide

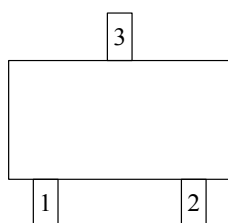
ELM2SC4081BA-S

Symbol		
a	Product name	ELM2SC4081
b	Package	B : SOT-23
c	Product version	A
d	Taping direction	S: Please refer to page 7

ELM2SC4081 B A - S  
 ↑ ↑ ↑ ↑  
 a b c d

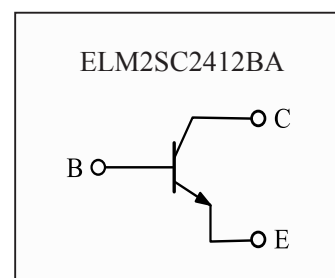
## ■Pin configuration

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

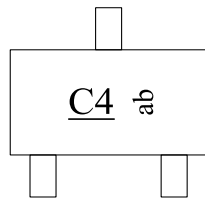
Top=25°C

Symbol	Condition	Min.	Typ.	Max.	Unit
BVcbo	Ic=100μA	60	-	-	V
BVceo	Ic=1mA	50	-	-	V
BVebo	Ie=50μA	7	-	-	V
Icbo	Vcb=60V	-	-	100	nA
Iebo	Veb=7V	-	-	100	nA
*Vce(sat)	Ic=50mA, Ib=5mA	-	0.1	0.3	V
*Vce(sat)	Ic=100mA, Ib=10mA	-	0.2	0.4	V
*Vbe(sat)	Ic=100mA, Ib=10mA	-	0.9	1.2	V
*Vbe(on)	Vce=6V, Ic=1mA	0.50	0.64	0.70	V
*Hfe	Vce=6V, Ic=1mA	180	-	390	
ft	Vce=12V, Ic=2mA, f=100MHz	80	180	-	MHz
Cob	Vcb=12V, f=1MHz	-	2.0	3.5	pF

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

## ■Marking

SOT-23

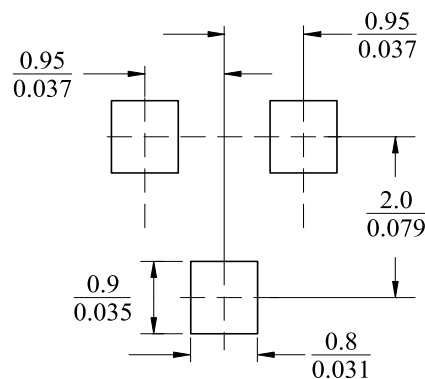


Mark	Content
C4	Product code
a b	Date code

## ■Shipping

- 3000 pcs / Tape & Reel

## ■Recommended soldering footprint

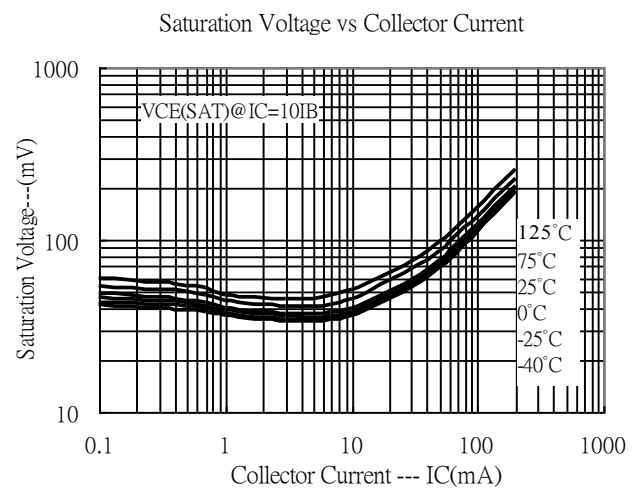
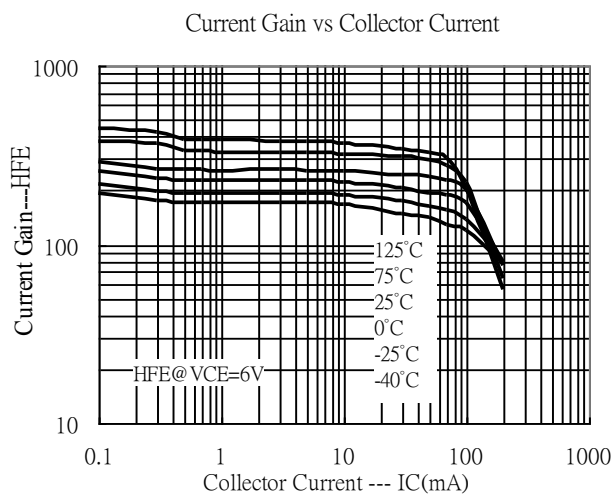
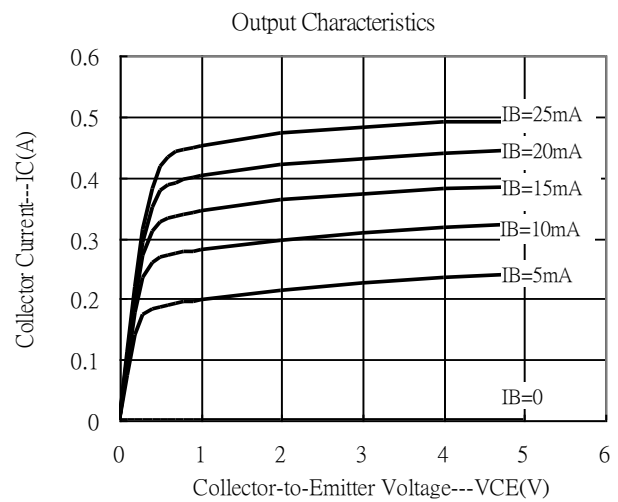
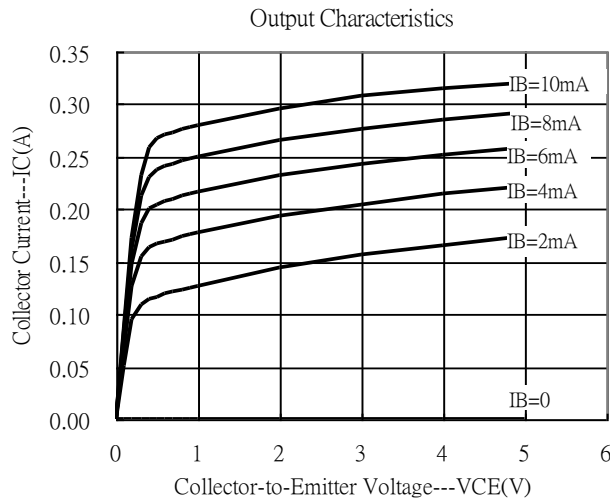
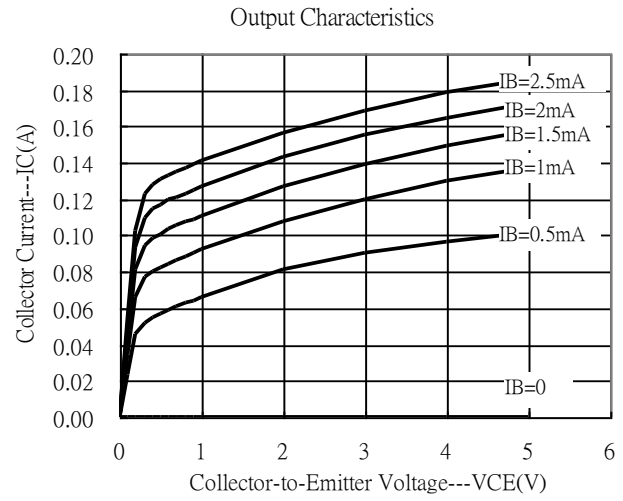
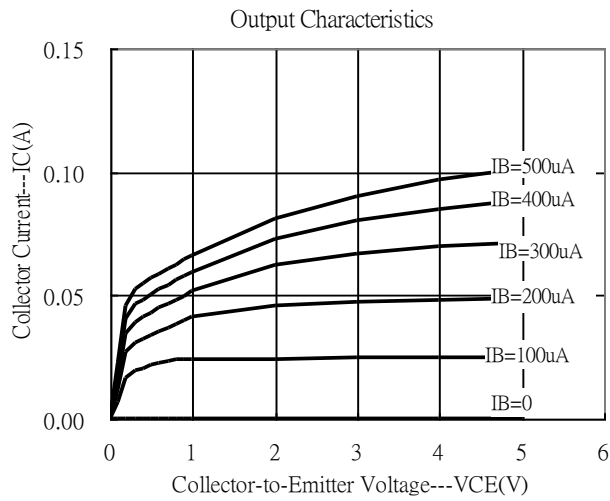


Unit :  $\frac{\text{mm}}{\text{inches}}$

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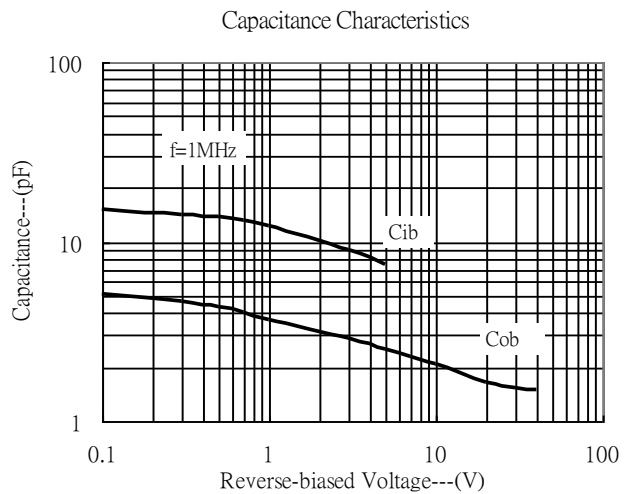
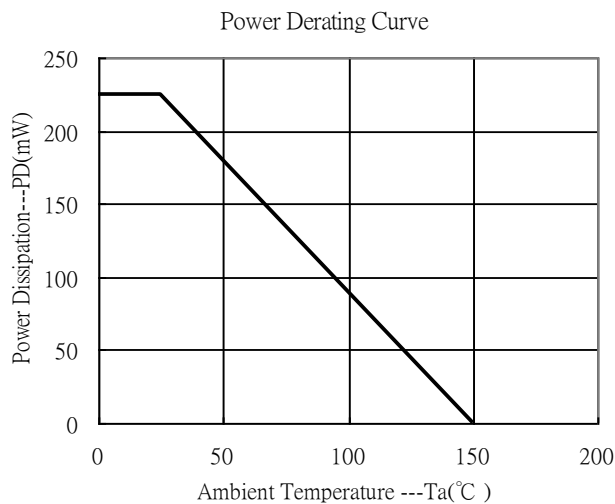
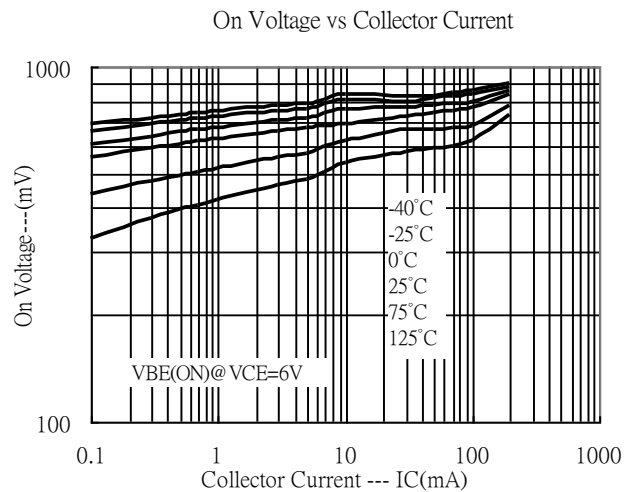
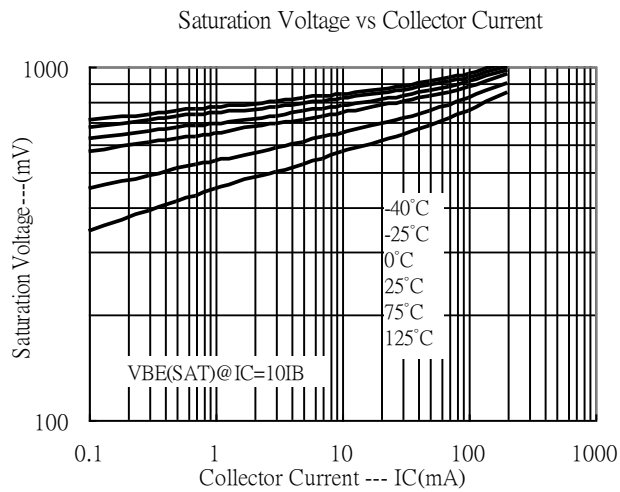
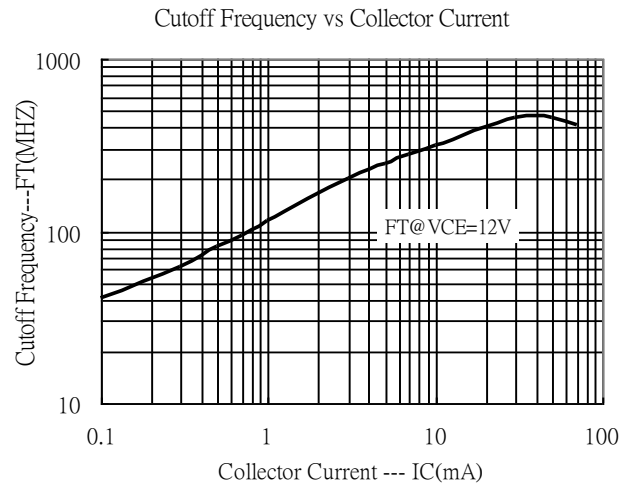
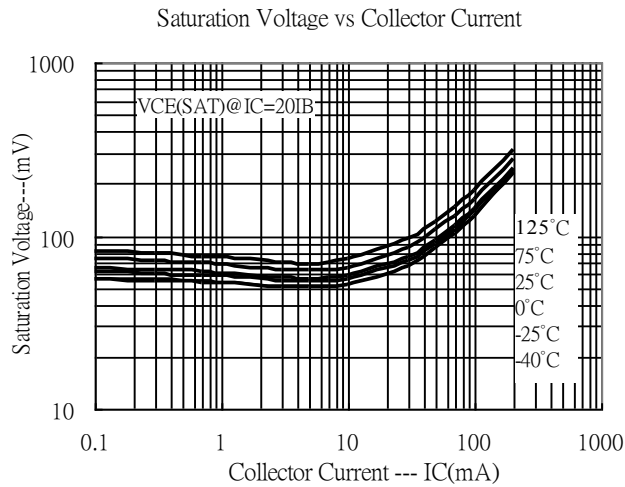
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## Typical characteristics



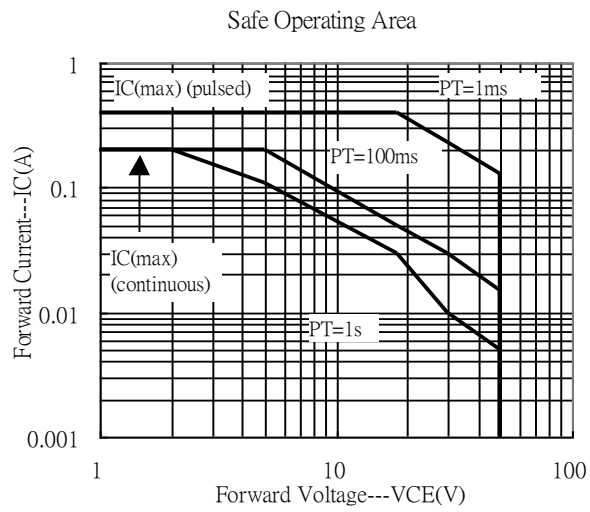
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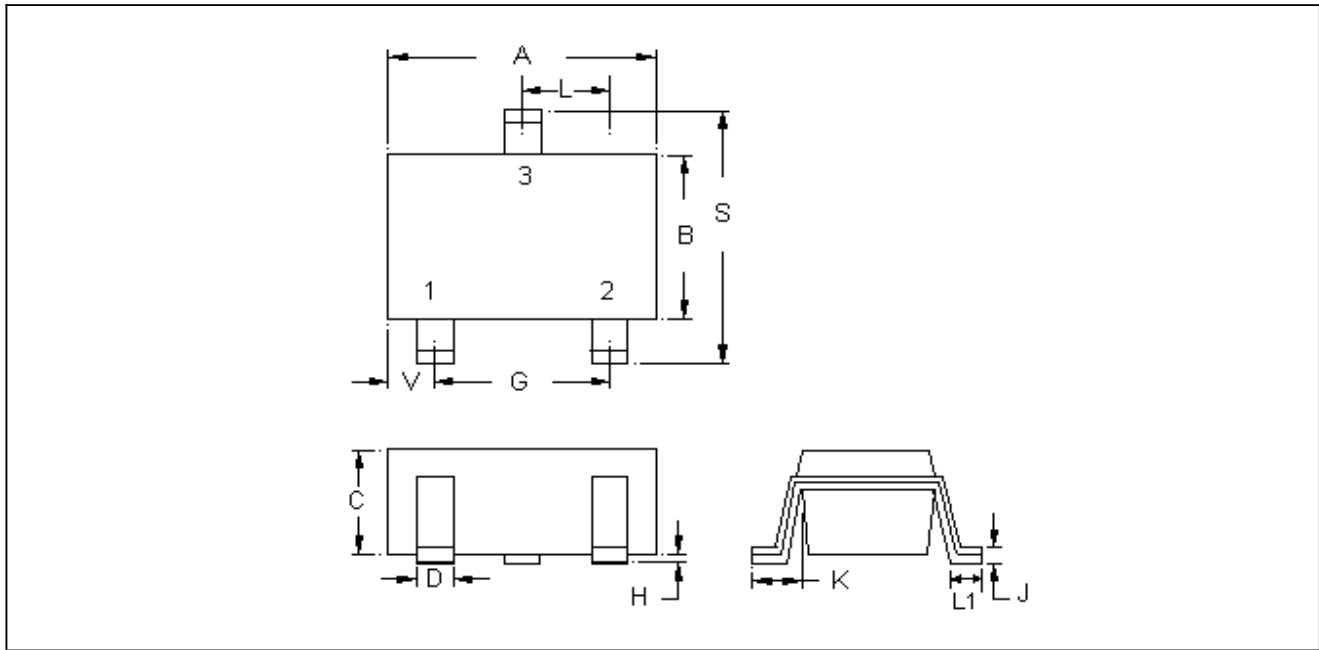
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## ■SOT-23 dimension



\*: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 :

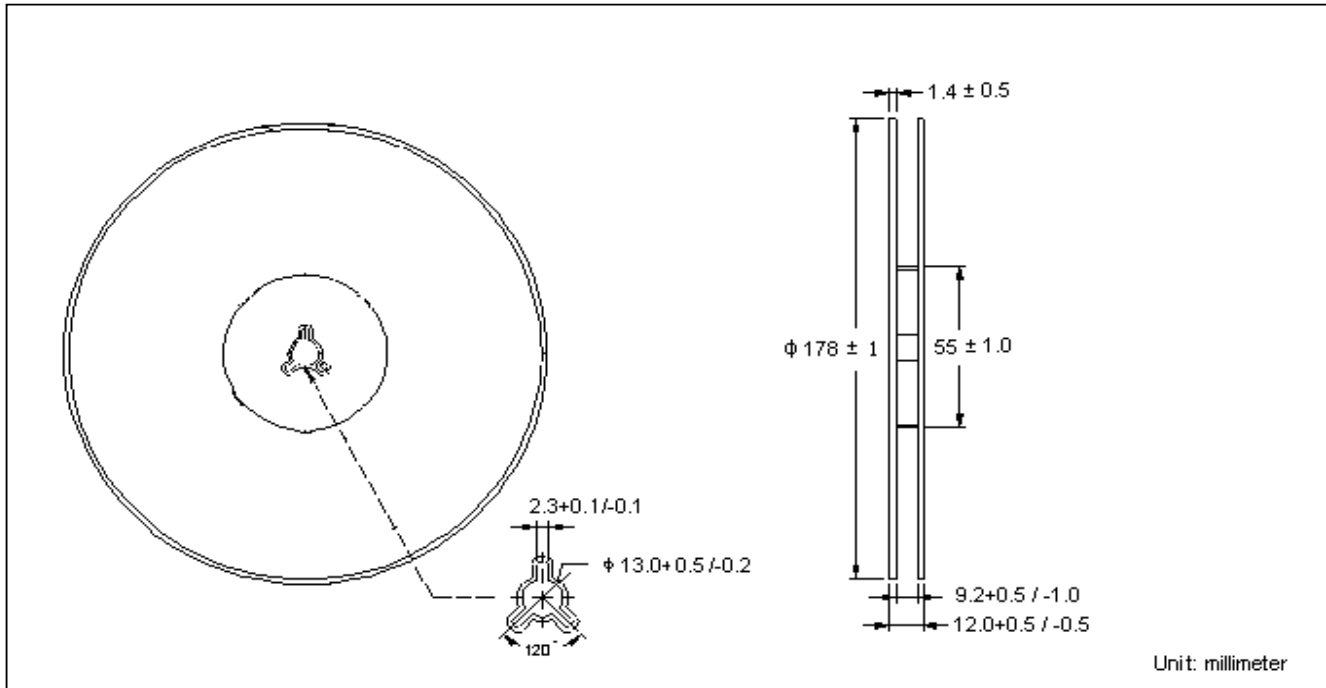
- Lead : Pure tin plated.
- Mold Compound : Epoxy resin family, flammability solid burning class : UL94V-0.

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## ■ Reel & carrier tape dimension

### • Reel



### • Carrier tape

