

ELM2SC3734BA General purpose NPN epitaxial planar transistor

<http://www.elm-tech.com>

■ General description

ELM2SC3734BA is designed for use in general purpose amplification and switching applications.

■ Features

- ESD JEDEC rated HBM class : 3B(>8KV).
- Package : SOT-23

■ Maximum absolute ratings (Ta=25°C)

Parameter	Symbol	Limit	Unit
Collector-base voltage	Vcbo	60	V
Collector-emitter voltage	Vceo	40	V
Emitter-base voltage	Vebo	6	V
Collector current	Ic	200	mA
Power dissipation	Pd	225 (Note)	mW
Power dissipation (Tc=25°C)	Pd	560	mW
Thermal resistance, junction to ambient	Rθja	556 (Note)	°C/W
Thermal resistance, junction to case	Rθjc	223	°C/W
Operating junction temperature	Tj	150	°C
Storage temperature range	Tstg	-55 to +150	°C

Note : Free air condition.

■ Selection guide

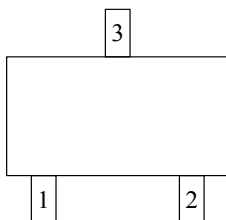
ELM2SC3734BA-S

Symbol		
a	Product name	ELM2SC3734
b	Package	B : SOT-23
c	Product version	A
d	Taping direction	S: Please refer to page 5

ELM2SC3734 B A - S
 ↑ ↑ ↑ ↑
 a b c d

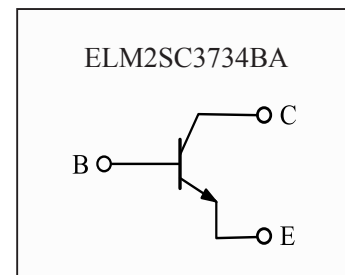
■ Pin configuration

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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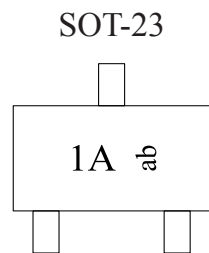
■Electrical characteristics

Top=25°C

Symbol	Condition	Min.	Typ.	Max.	Unit
BVcbo	Ic=10μA	60	-	-	V
BVceo	Ic=1mA	40	-	-	V
BVebo	Ie=10μA	6	-	-	V
Icex	Vce=30V, Vbe=-3V	-	-	50	nA
*Vce(sat)1	Ic=10mA, Ib=1mA	-	0.10	0.20	V
*Vce(sat)2	Ic=50mA, Ib=5mA	-	0.15	0.30	V
*Vbe(sat)1	Ic=10mA, Ib=1mA	0.65	0.75	0.85	V
*Vbe(sat)2	Ic=50mA, Ib=5mA	-	0.85	0.95	V
*Hfe1	Vce=1V, Ic=100μA	40	-	-	
*Hfe2	Vce=1V, Ic=1mA	70	-	-	
*Hfe3	Vce=1V, Ic=10mA	100	-	300	
*Hfe4	Vce=1V, Ic=50mA	60	-	-	
*Hfe5	Vce=1V, Ic=100mA	30	-	-	
ft	Vce=20V, Ic=10mA, f=100MHz	300	-	-	MHz
Cob	Vcb=5V, Ie=0A, f=1MHz	-	-	4	pF

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

■Marking

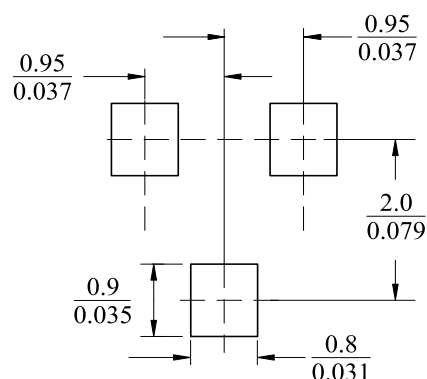


Mark	Content
1A	Product code
a b	Date code

■Shipping

- 3000 pcs / Tape & Reel

■Recommended soldering footprint



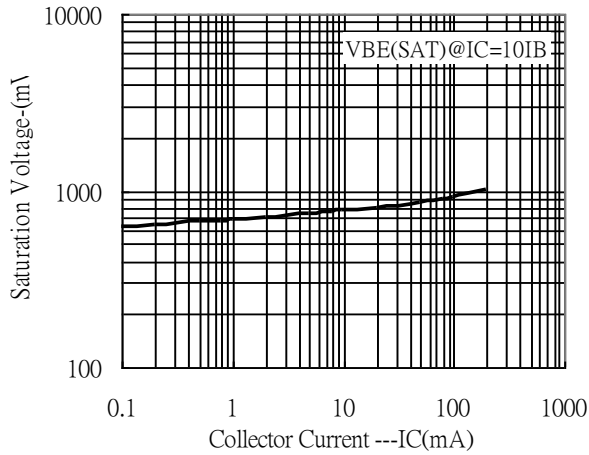
Unit : $\frac{\text{mm}}{\text{inches}}$

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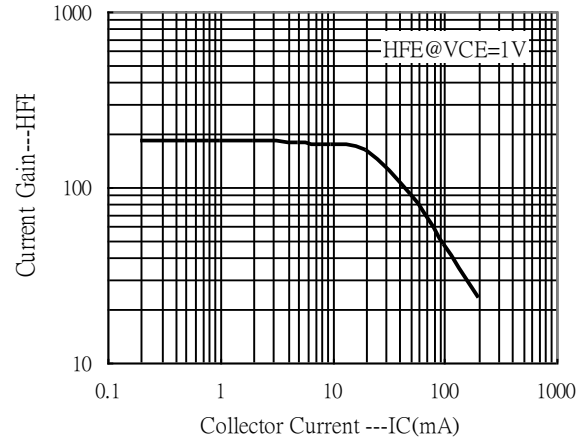
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■ Typical characteristics

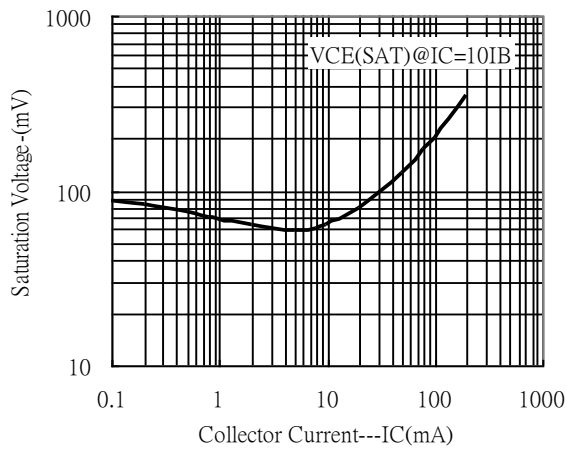
Saturation Voltage vs Collector Current



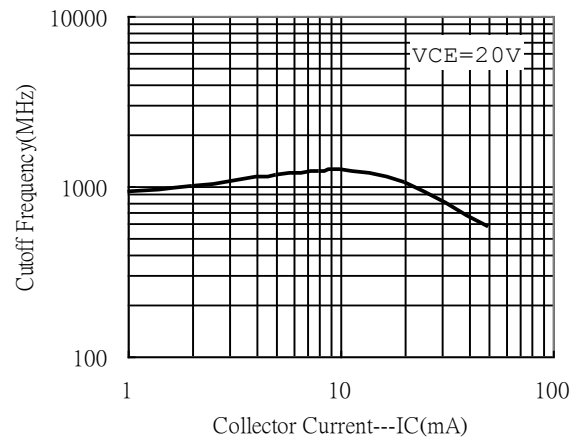
Current Gain vs Collector Current



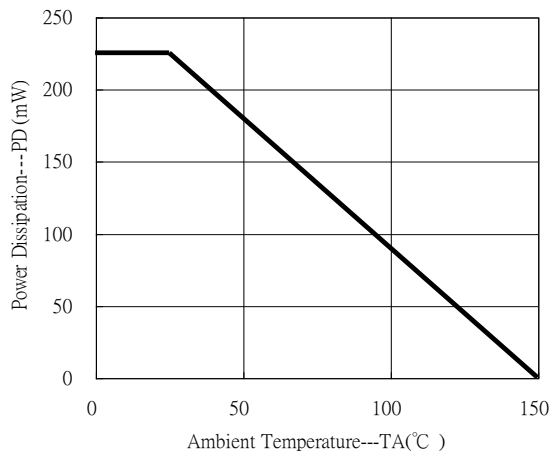
Saturation Voltage vs Collector Current



Cutoff Frequency vs Collector Current



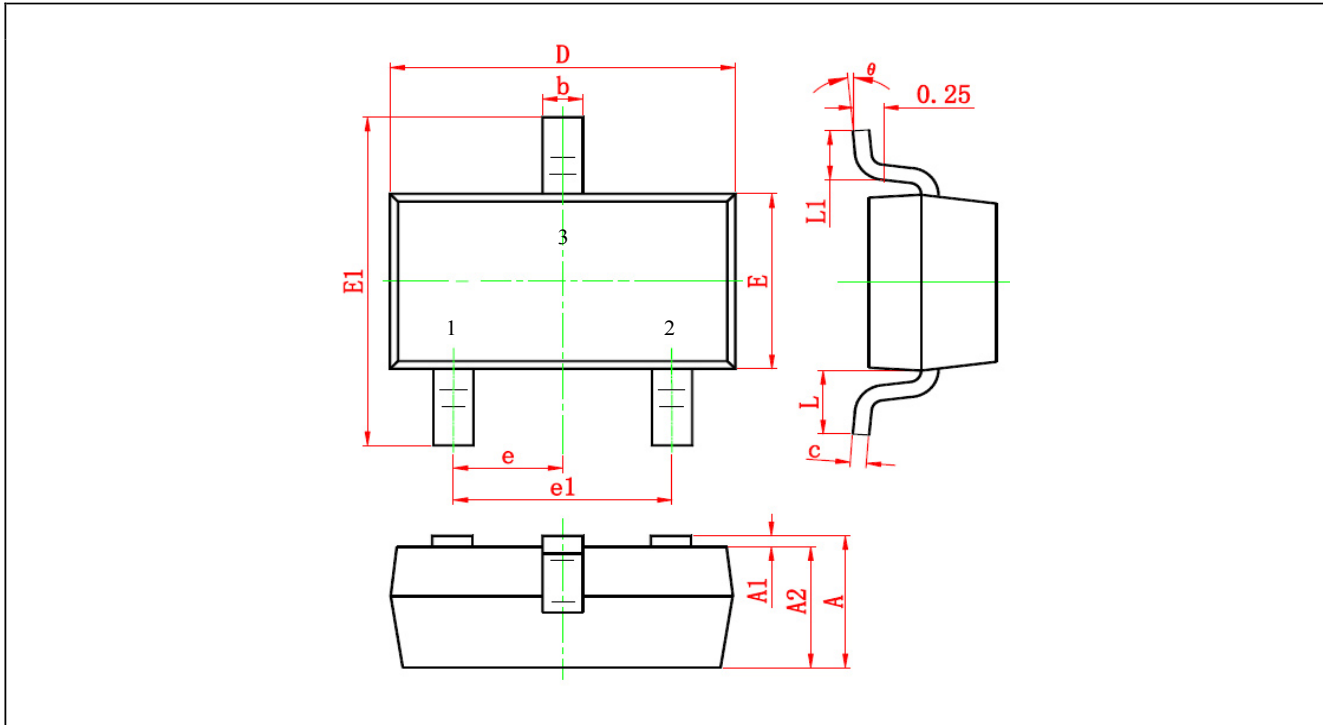
Power Derating Curve



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■SOT-23 dimension



DIM	Millimeters		Inches		DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045	E1	2.250	2.550	0.089	0.100
A1	0.000	0.100	0.000	0.004	e	0.950 TYP		0.037 TYP	
A2	0.900	1.050	0.035	0.041	e1	1.800	2.000	0.071	0.079
b	0.300	0.500	0.012	0.020	L	0.550 REF		0.022 REF	
c	0.080	0.150	0.003	0.006	L1	0.300	0.500	0.012	0.020
D	2.800	3.000	0.110	0.118	theta	0°	8°	0°	8°
E	1.200	1.400	0.047	0.055					

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 :

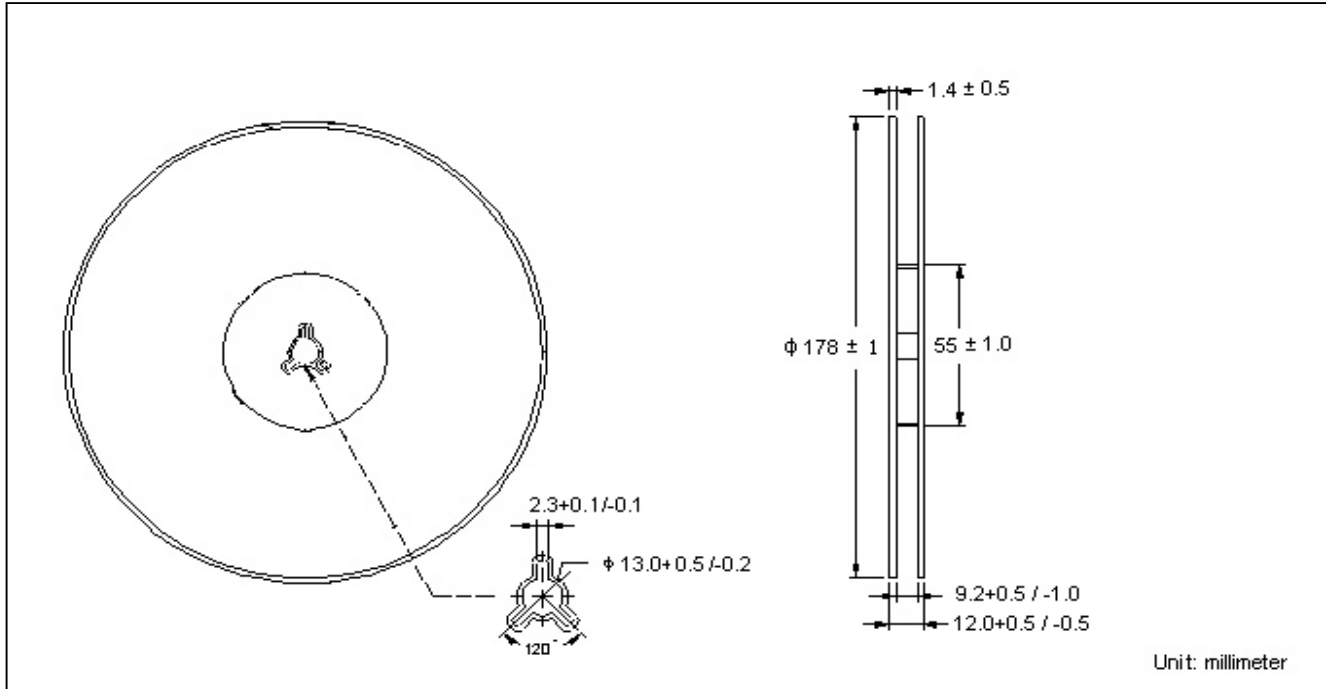
- Lead : Pure tin plated.
- Mold Compound : Epoxy resin family, flammability solid burning class : UL94V-0.

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■ Reel & carrier tape dimension

• Reel



• Carrier tape

