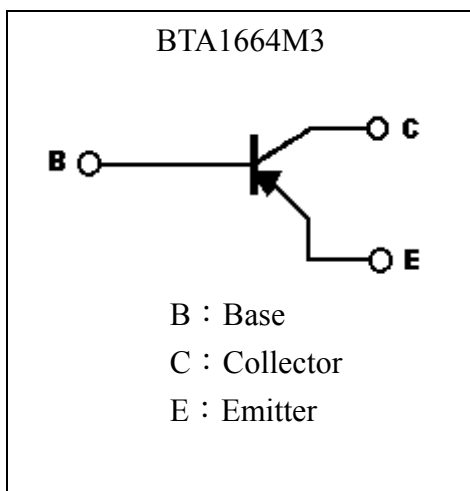
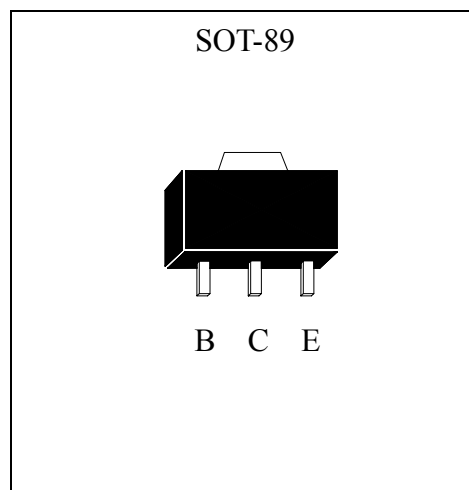


**Low Vcesat PNP Epitaxial Planar Transistor**

# BTA1664M3

**Features**

- Low  $V_{CE(sat)}$ ,  $V_{CE(sat)} = -0.24V$  (typical), at  $I_C / I_B = -500mA / -20mA$
- Pb-free package

**Symbol**

**Outline**

**Absolute Maximum Ratings** ( $T_a = 25^\circ C$ )

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	$V_{CB0}$	-40	V
Collector-Emitter Voltage	$V_{CEO}$	-25	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Collector Current(DC)	$I_C$	-0.8	A
Collector Current(Pulse)	$I_{CP}$	-2 *1	A
Power Dissipation	$P_d$	0.6	W
		1 *2	
		2 *3	
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature	$T_{stg}$	-55~+150	$^\circ C$

Note : \*1 Single pulse,  $P_w = 10ms$

\*2 When mounted on FR-4 PCB with area measuring  $10 \times 10 \times 1 mm$

\*3 When mounted on ceramic with area measuring  $40 \times 40 \times 1 mm$

**Characteristics (Ta=25°C)**

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV <sub>CB0</sub>	-40	-	-	V	I <sub>C</sub> =-50μA, I <sub>E</sub> =0
BV <sub>CE0</sub>	-25	-	-	V	I <sub>C</sub> =-1mA, I <sub>B</sub> =0
BV <sub>EB0</sub>	-5	-	-	V	I <sub>E</sub> =-50μA, I <sub>C</sub> =0
I <sub>CB0</sub>	-	-	-100	nA	V <sub>CB</sub> =-40V, I <sub>E</sub> =0
I <sub>EB0</sub>	-	-	-100	nA	V <sub>EB</sub> =-5V, I <sub>C</sub> =0
*V <sub>CE(sat)</sub>	-	-0.24	-0.4	V	I <sub>C</sub> =-500mA, I <sub>B</sub> =-20mA
*V <sub>BE(on)</sub>	-0.5	-	-0.8	V	V <sub>CE</sub> =-1V, I <sub>C</sub> =-10mA
*h <sub>FE 1</sub>	82	-	390	-	V <sub>CE</sub> =-1V, I <sub>C</sub> =-100mA
*h <sub>FE 2</sub>	40	-	-	-	V <sub>CE</sub> =-1V, I <sub>C</sub> =-700mA
f <sub>T</sub>	-	120	-	MHz	V <sub>CE</sub> =-5V, I <sub>C</sub> =-10mA, f=100MHz
Cob	-	19	-	pF	V <sub>CB</sub> =-10V, f=1MHz

\*Pulse Test : Pulse Width ≤380μs, Duty Cycle ≤2%

**Classification of hFE 1**

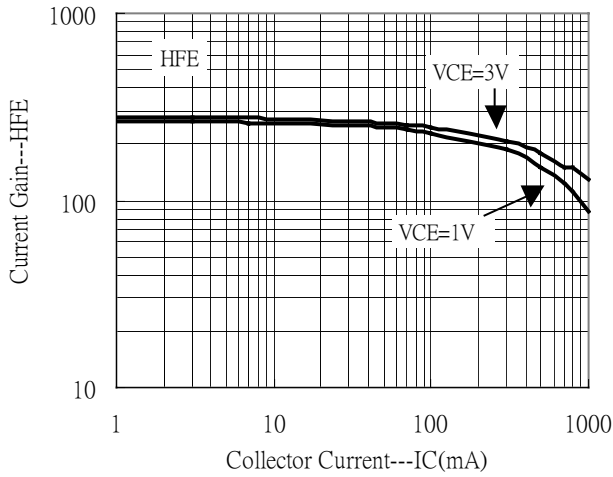
Rank	P	Q	R
Range	82~180	120~270	180~390

**Ordering Information**

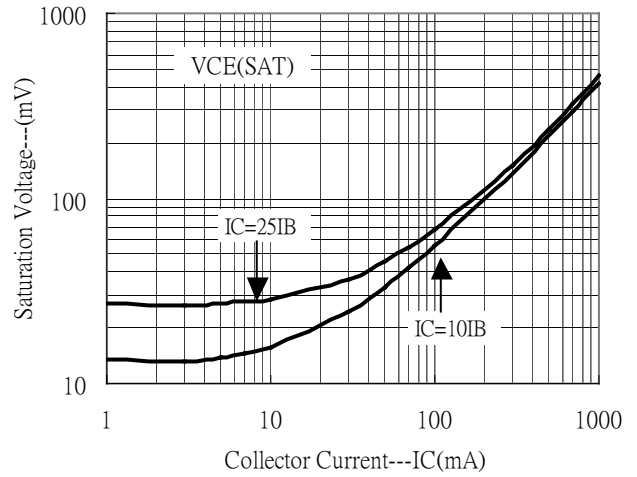
Device	Package	Shipping	Marking
BTA1664M3	SOT-89 (Pb-free)	1000 pcs / Tape & Reel	BA

**Characteristic Curves**

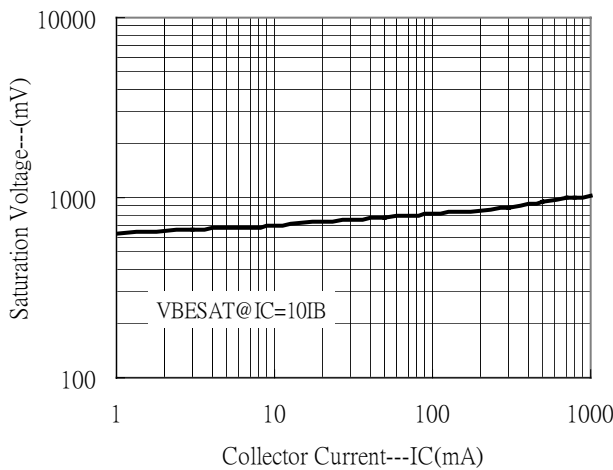
Current Gain vs Collector Current



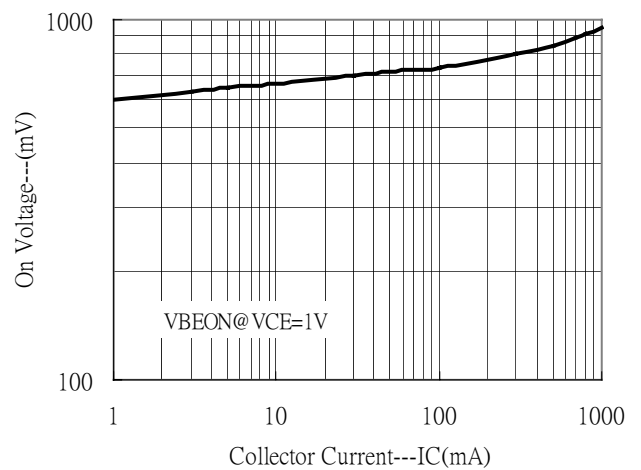
Saturation Voltage vs Collector Current



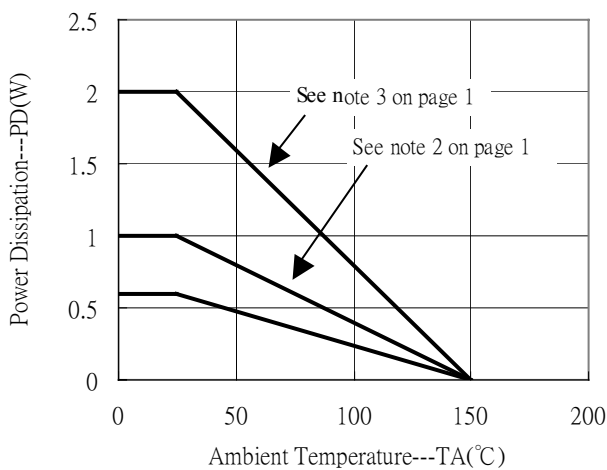
Saturation Voltage vs Collector Current



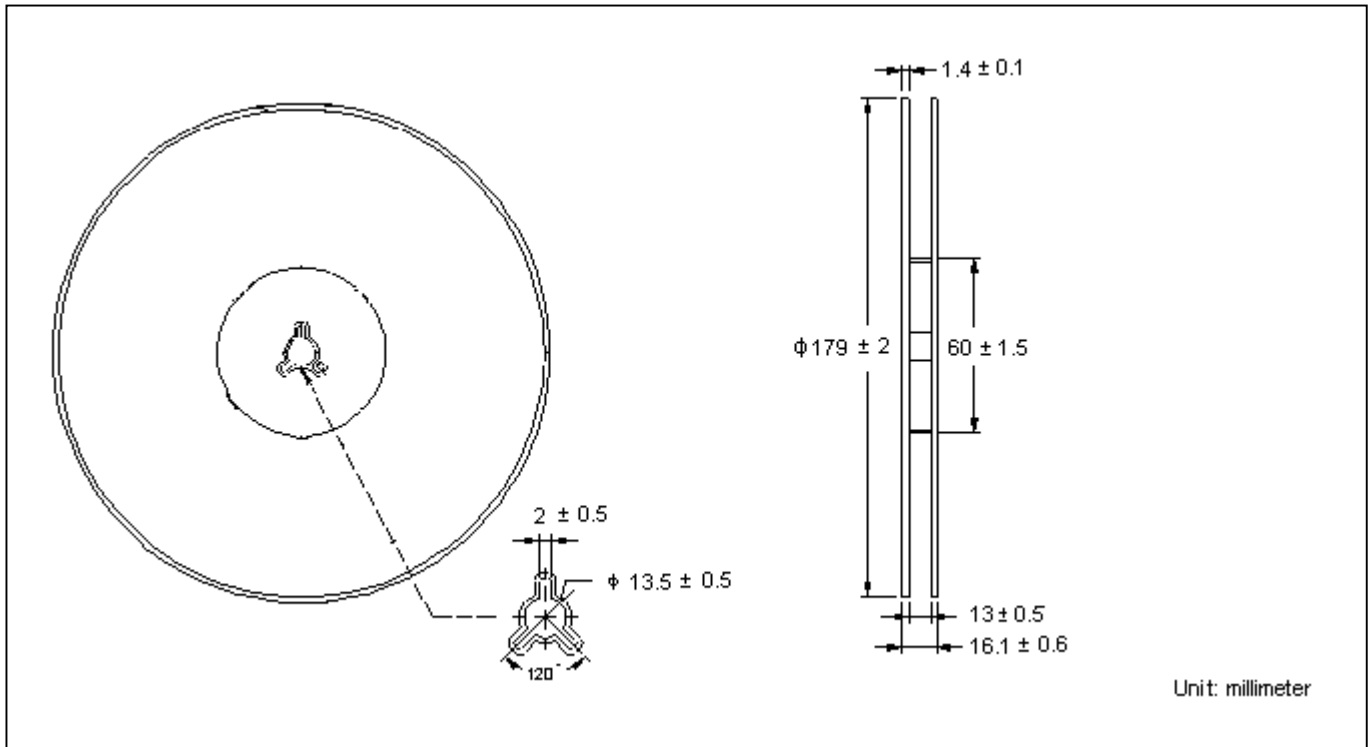
On Voltage vs Collector Current



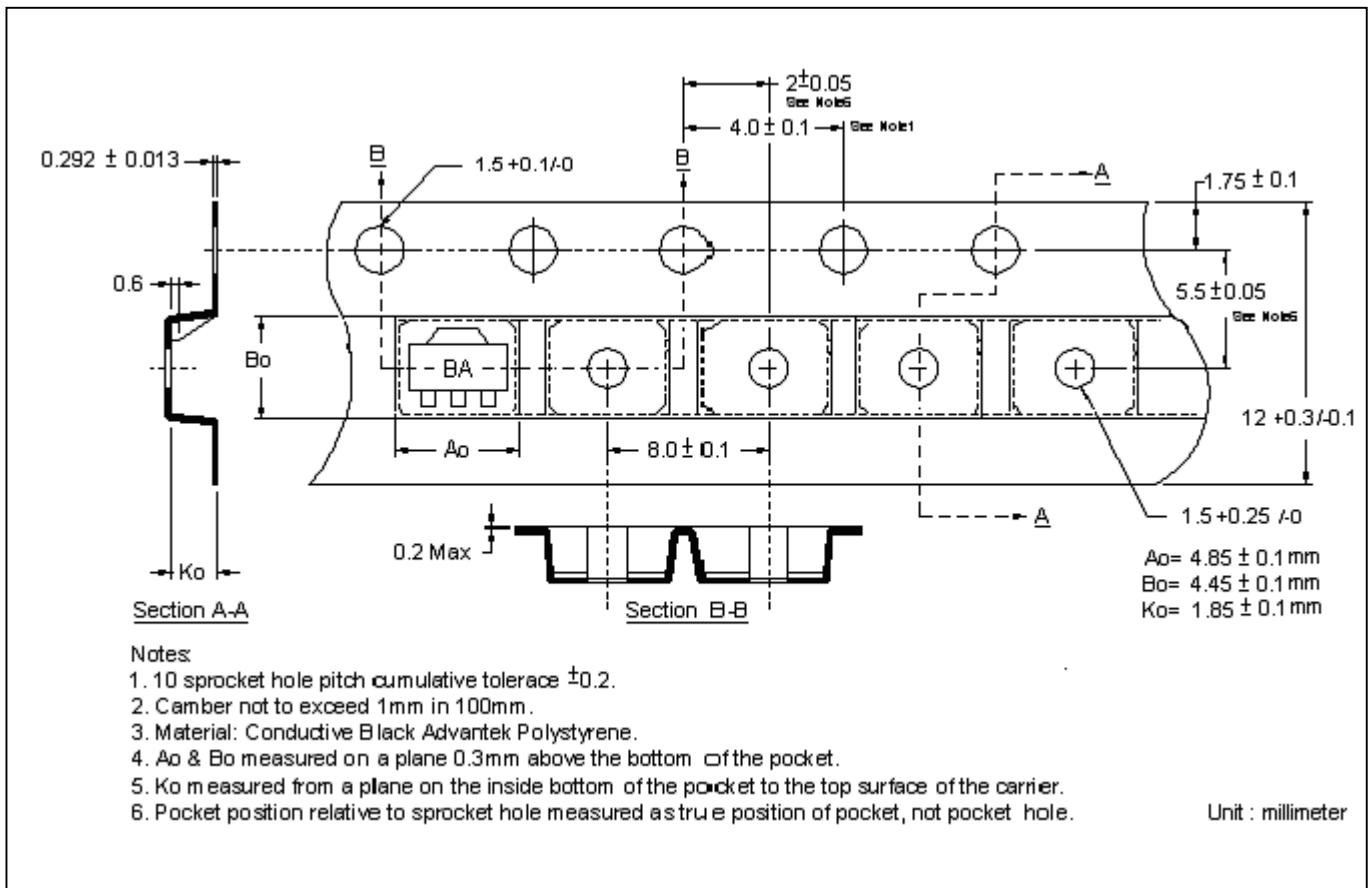
Power Derating Curves



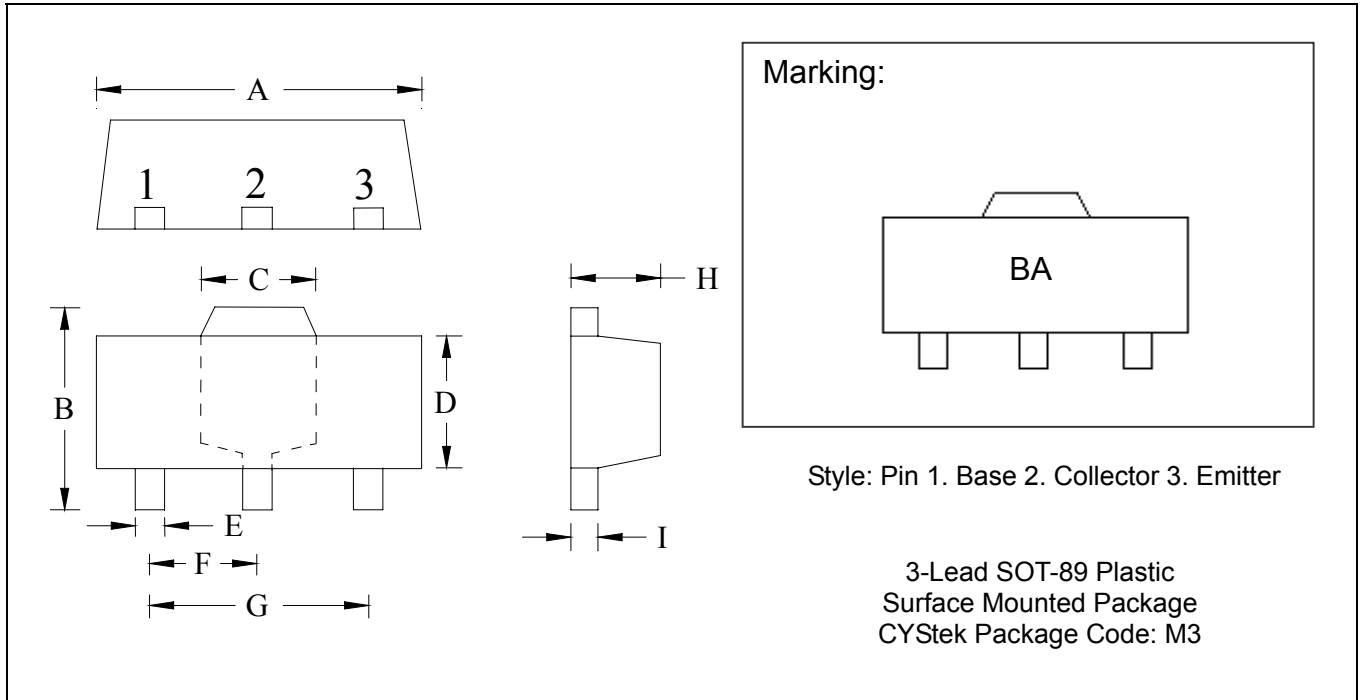
**Reel Dimension**



**Carrier Tape Dimension**



**SOT-89 Dimension**



\*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1732	0.1811	4.40	4.60	F	0.0583	0.0598	1.48	1.527
B	0.1594	0.1673	4.05	4.25	G	0.1165	0.1197	2.96	3.04
C	0.0591	0.0663	1.50	1.70	H	0.0551	0.0630	1.40	1.60
D	0.0945	0.1024	2.40	2.60	I	0.0138	0.0161	0.35	0.41
E	0.01417	0.0201	0.36	0.51					

Notes: 1.Controlling dimension: millimeters.  
 2.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.  
 3.If there is any question with packing specification or packing method, please contact your local CYStek sales office.

**Material:**

- Lead: 42 Alloy ; solder plating
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

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