

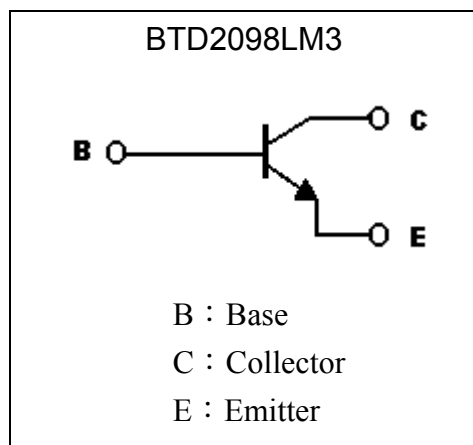
Low Vcesat NPN Epitaxial Planar Transistor

BTD2098LM3

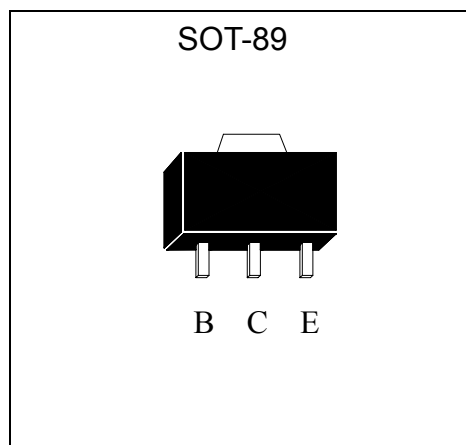
Features

- Low $V_{CE(sat)}$, $V_{CE(sat)}=0.25\text{ V}$ (typical), at $I_C / I_B = 3\text{ A} / 0.1\text{ A}$
- Excellent DC current gain characteristics
- Complementary to BTB1386LM3
- Pb-free package

Symbol



Outline



Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CB0}	40	V
Collector-Emitter Voltage	V_{CEO}	15	V
Emitter-Base Voltage	V_{EB0}	6	V
Collector Current (DC)	I_C	5	A
Collector Current (Pulse)	I_{CP}	8 (Note 1)	A
Power Dissipation	P_d	0.6	W
		1 (Note 2)	W
		2 (Note 3)	W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	208	$^\circ\text{C/W}$
		125 (Note 2)	$^\circ\text{C/W}$
		62.5 (Note 3)	$^\circ\text{C/W}$
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~+150	$^\circ\text{C}$

Note : 1. Single Pulse $P_w \leq 350\mu\text{s}$, Duty $\leq 2\%$.

2. When mounted on FR-4 PCB with area measuring $10 \times 10 \times 1\text{ mm}$.

3. When mounted on ceramic with area measuring $40 \times 40 \times 1\text{ mm}$

**Characteristics (Ta=25°C)**

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV _{CBO}	40	-	-	V	I _C =50μA, I _B =0
BV _{CEO}	15	-	-	V	I _C =1mA, I _B =0
BV _{EBO}	6	-	-	V	I _E =50μA, I _C =0
I _{CBO}	-	-	0.1	μA	V _{CB} =40V, I _E =0
I _{EBO}	-	-	0.1	μA	V _{EB} =5V, I _C =0
*V _{CE(sat)}	-	0.25	0.5	V	I _C =3A, I _B =0.1A
*h _{FE1}	180	-	820	-	V _{CE} =2V, I _C =500mA
*h _{FE2}	160	-	-	-	V _{CE} =2V, I _C =2A
f _T	-	150	-	MHz	V _{CE} =6V, I _C =50mA, f=200MHz
Cob	-	-	50	pF	V _{CB} =20V, I _E =0A, f=1MHz

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

Classification Of h_{FE1}

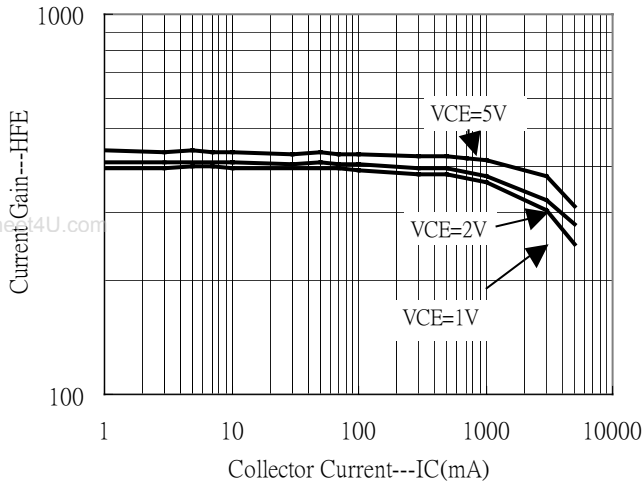
Rank	R	S	T
Range	180~390	270~560	390~820

Ordering Information

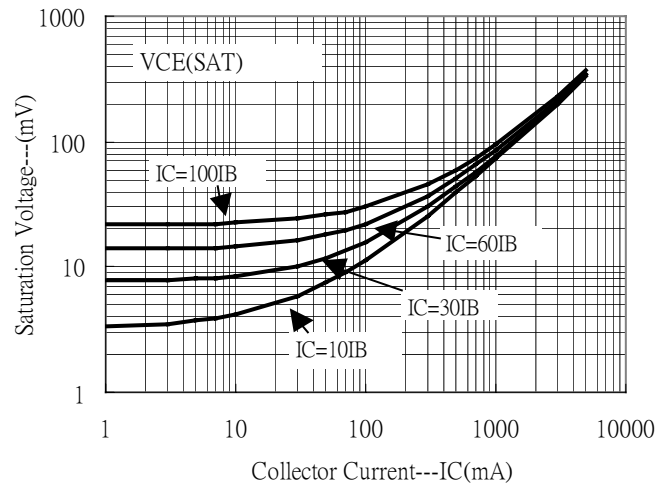
Device	Package	Shipping	Marking
BTD2098LM3	SOT-89 (Pb-free)	1000 pcs / Tape & Reel	AH

Characteristic Curves

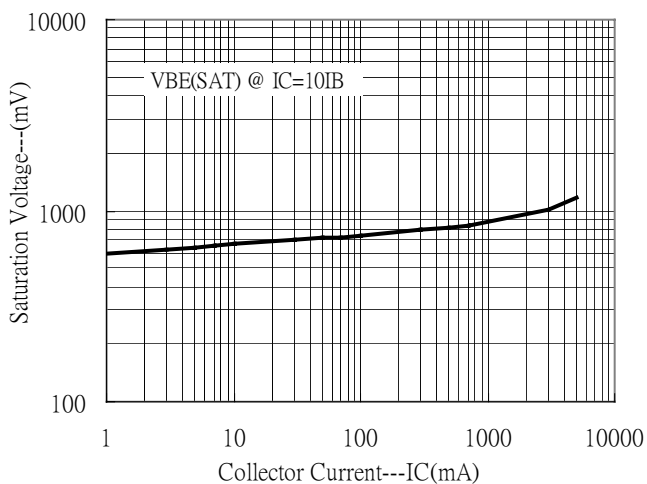
Current Gain vs Collector Current



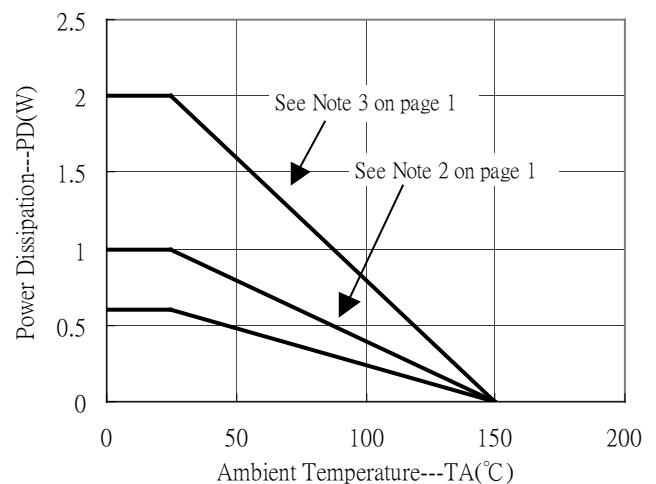
Saturation Voltage vs Collector Current



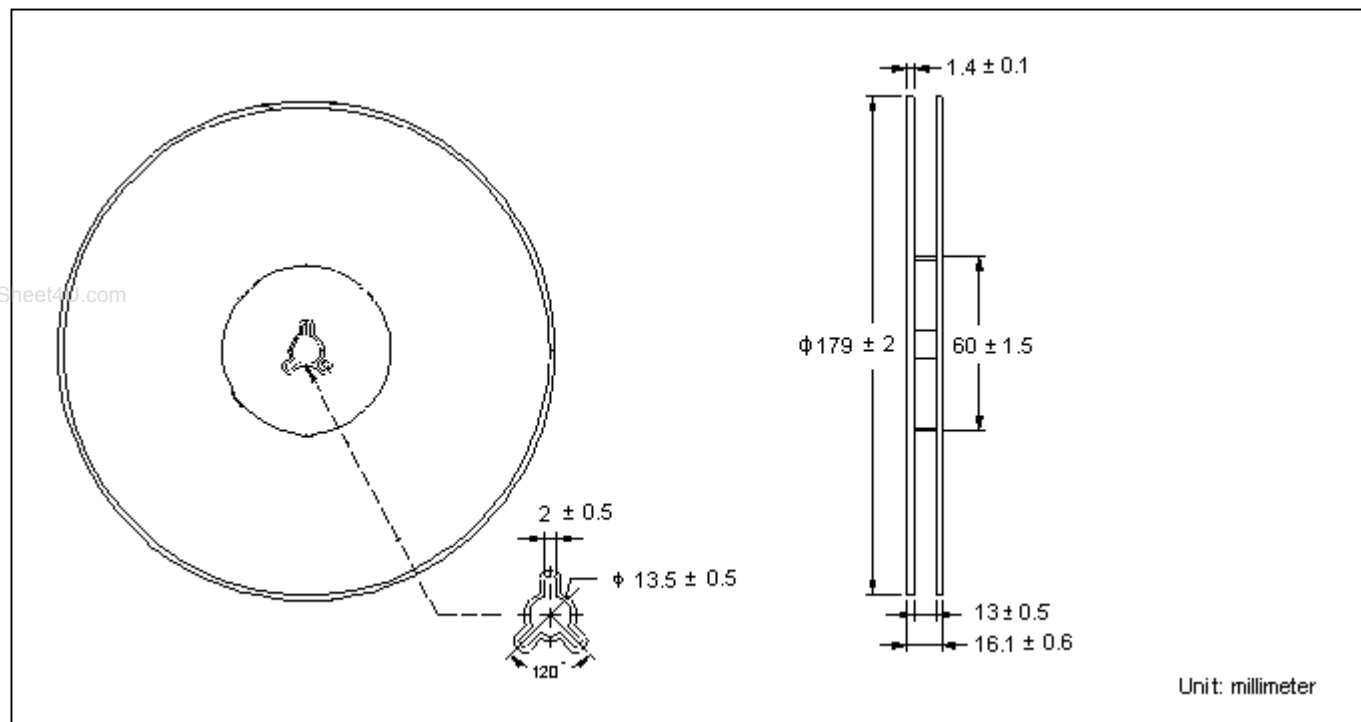
Saturation Voltage vs Collector Current



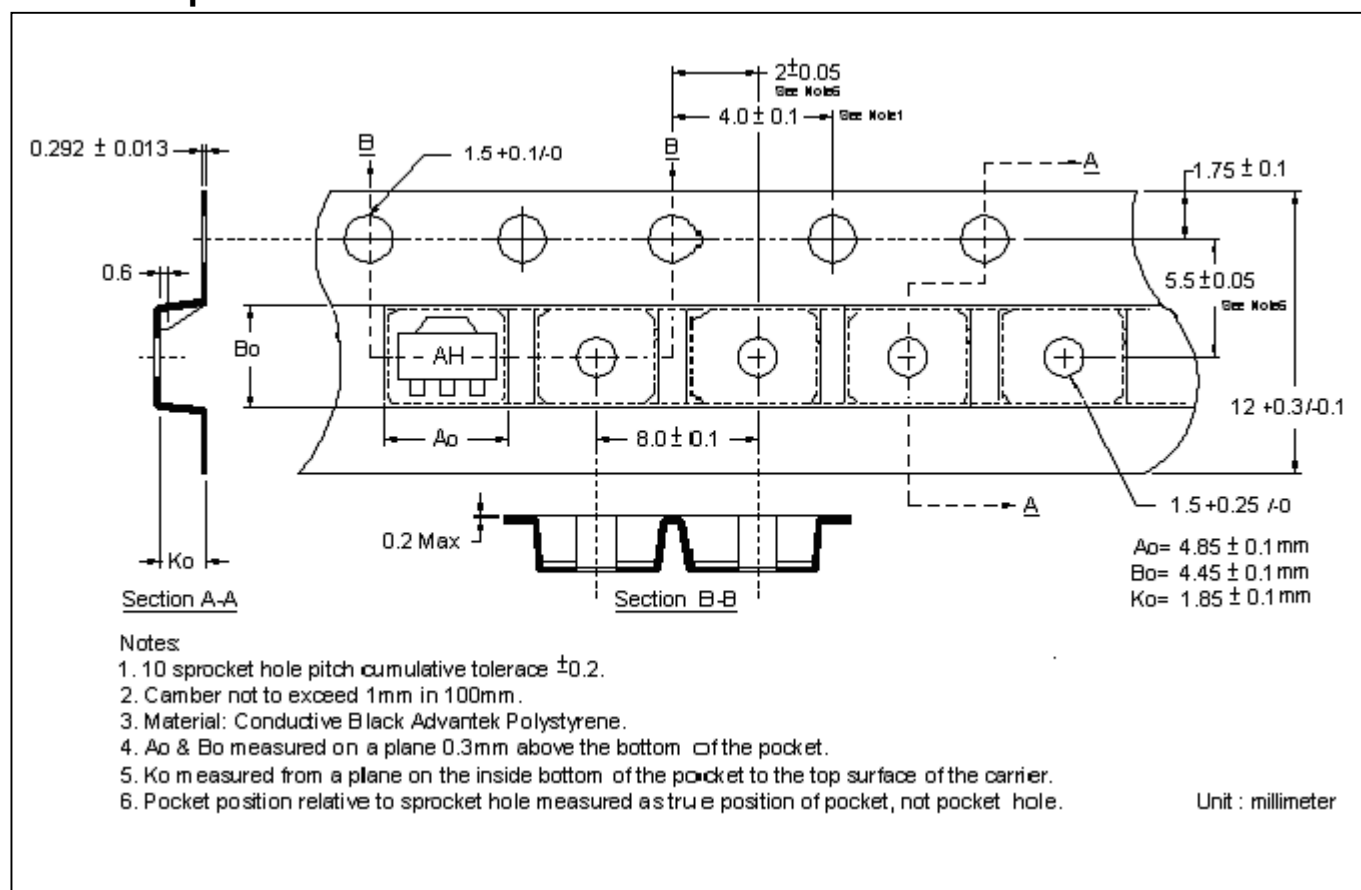
Power Derating Curve



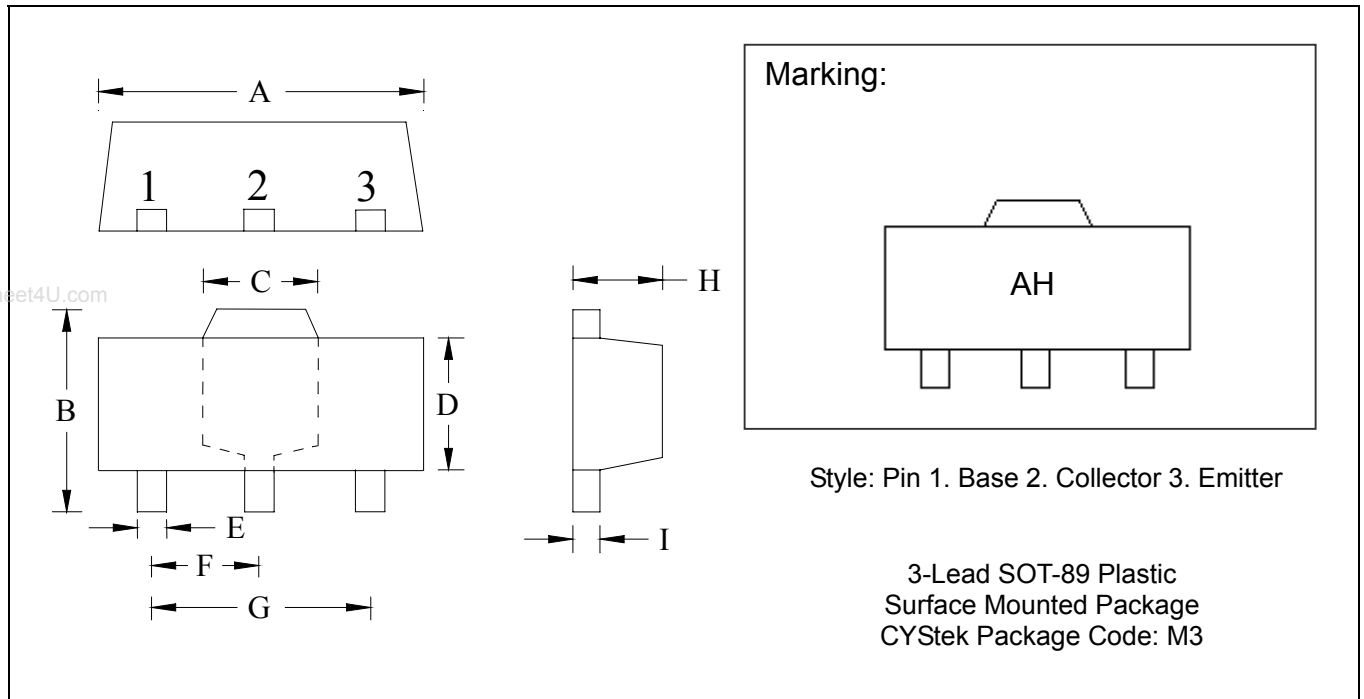
Reel Dimension



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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