

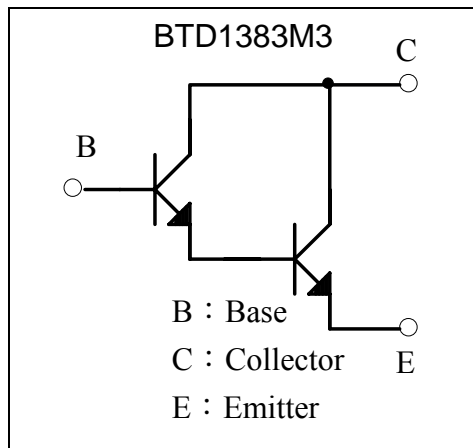
General Purpose NPN Epitaxial Planar Transistor

BTD1383M3

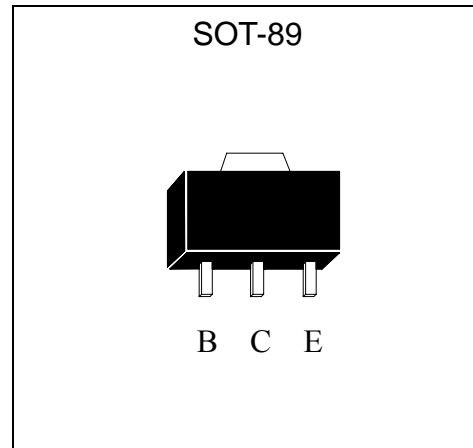
Description

- The BTD1383M3 is a darlington amplifier transistor.
- Pb-free package

Symbol



Outline



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V _{CB0}	40	V
Collector-Emitter Voltage	V _{CES}	32	V
Emitter-Base Voltage	V _{EB0}	10	V
Collector Current (DC)	I _C	0.3	A
Collector Current (Pulse)	I _{CP}	1.5 (Note 1)	A
Power Dissipation	P _d	0.6	W
		1 (Note 2)	W
		2 (Note 3)	W
Thermal Resistance, Junction to Ambient	R _{θJA}	208	°C/W
		125 (Note 2)	°C/W
		62.5 (Note 3)	°C/W
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55~+150	°C

Note : 1. Single Pulse Pw ≤ 350μs, Duty ≤ 2%.

2. When mounted on a FR-4 PCB with area measuring 10×10×1 mm.

3. When mounted on a ceramic board with area measuring 40×40×1mm.



Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV _{CB0}	40	-	-	V	I _C =100μA
BV _{CES}	32	-	-	V	I _C =1mA, R _{BE} =0Ω
BV _{EBO}	10	-	-	V	I _E =100μA
I _{CB0}	-	-	100	nA	V _{CB} =30V
I _{EBO}	-	-	100	nA	V _{EB} =10V
*V _{CE(sat)}	-	-	1.5	V	I _C =200mA, I _B =0.4mA
*h _{FE1}	10K	-	-		V _{CE} =5V, I _C =10mA
*h _{FE2}	20K	-	-		V _{CE} =5V, I _C =100mA
f _T	-	250	-	MHz	V _{CE} =5V, I _C =10mA, f=100MHz
Cob	-	5	-	pF	V _{CB} =10V, I _E =0A, f=1MHz

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

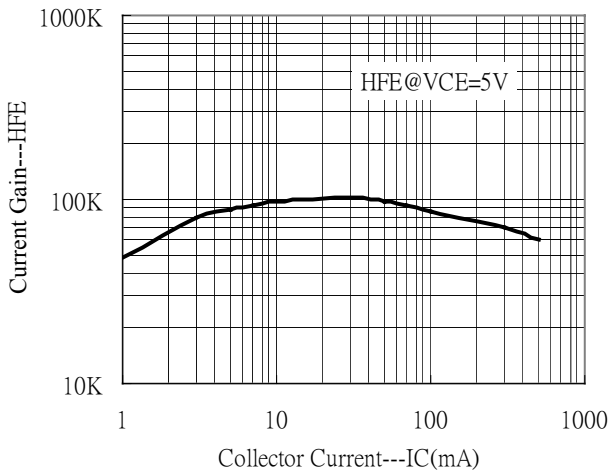
Ordering Information

Device	Package	Shipping	Marking
BTD1383M3	SOT-89 (Pb-free)	1000 pcs / Tape & Reel	WA

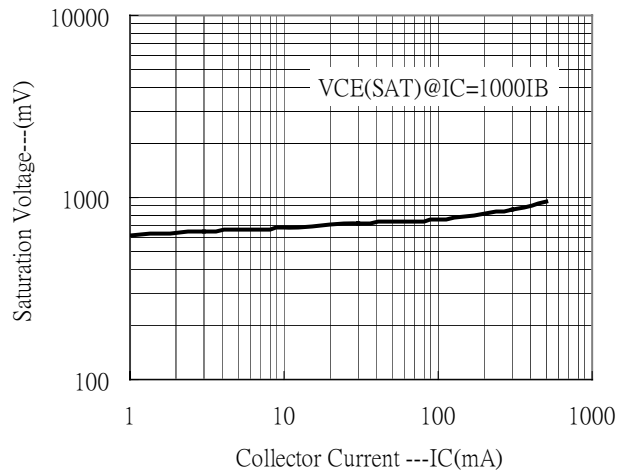


Characteristic Curves

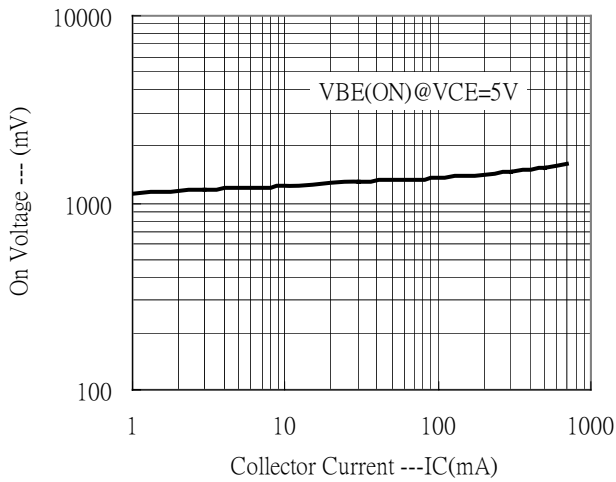
Current Gain vs Collector Current



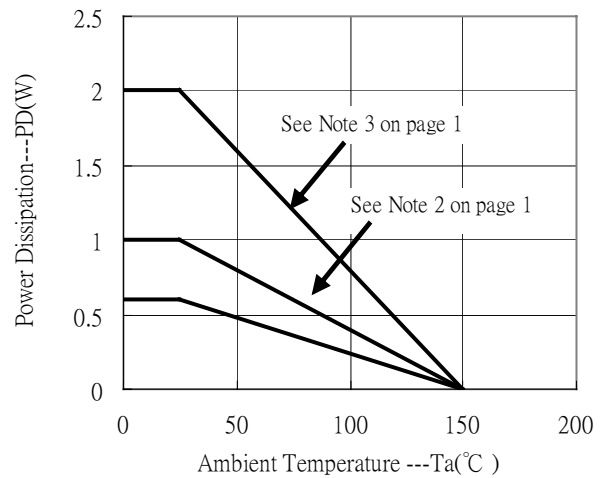
Saturation Voltage vs Collector Current



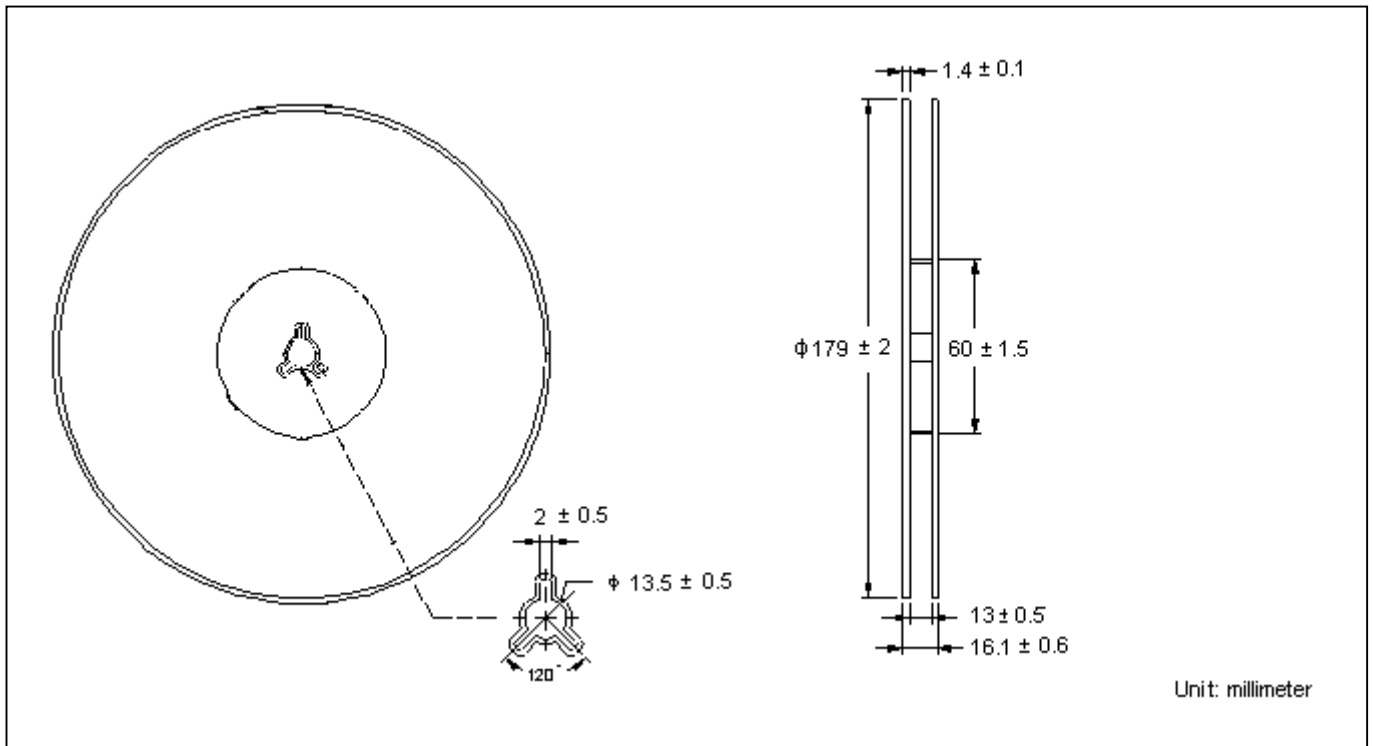
On Voltage vs Collector Current



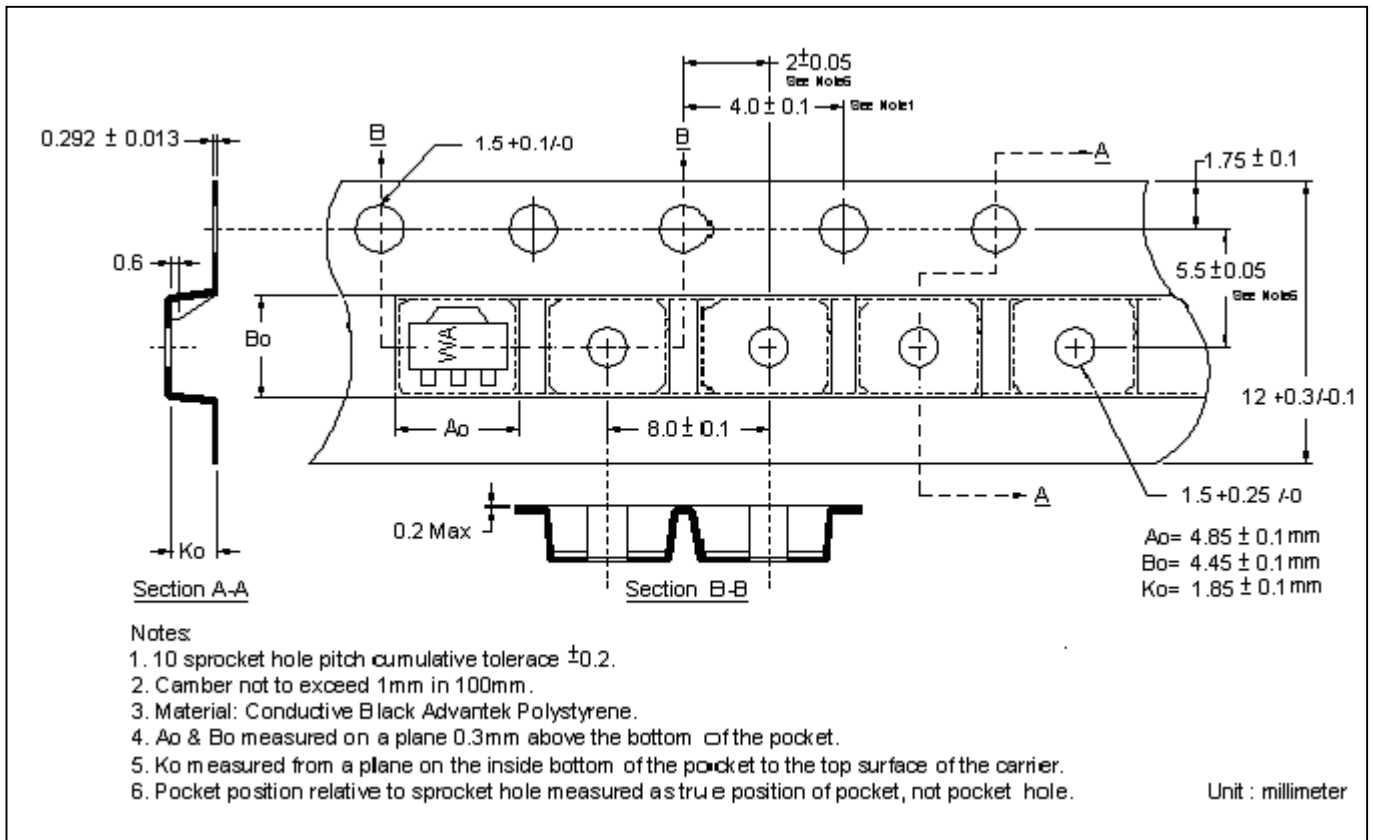
Power Derating Curves



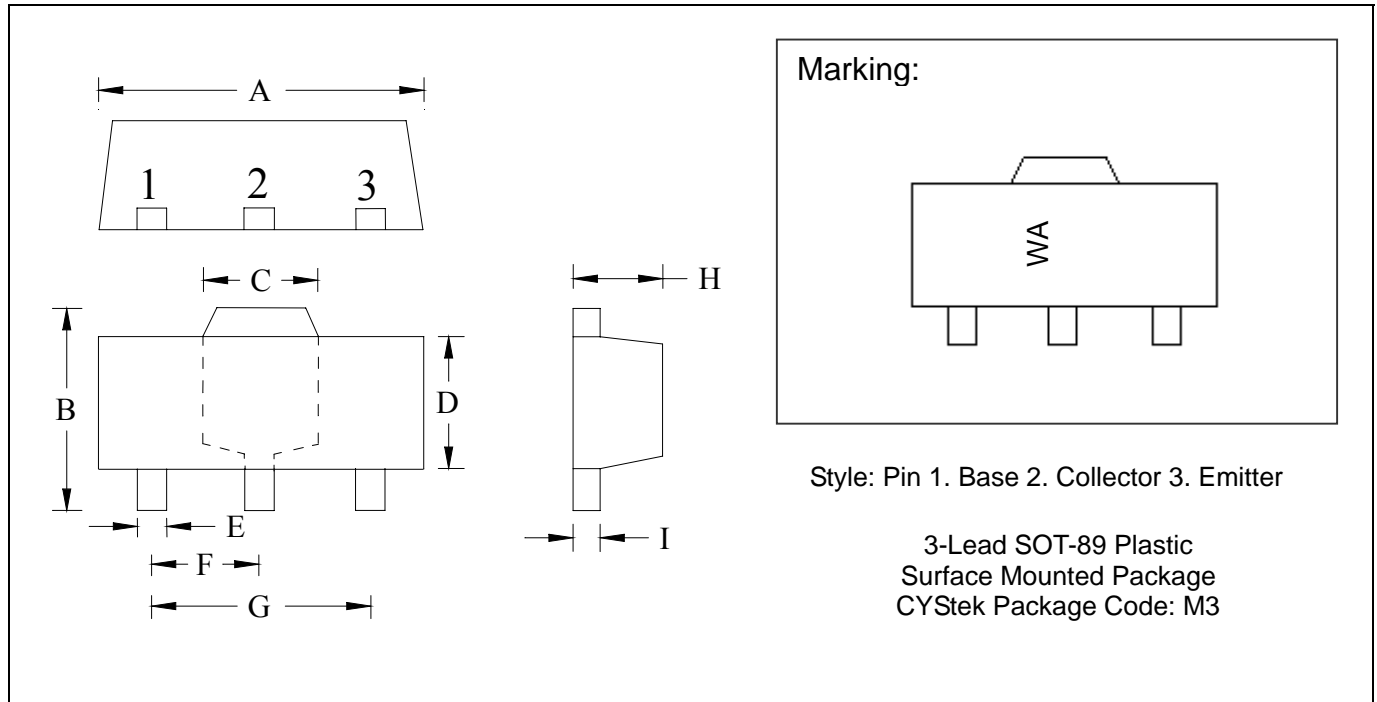
Reel Dimension



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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