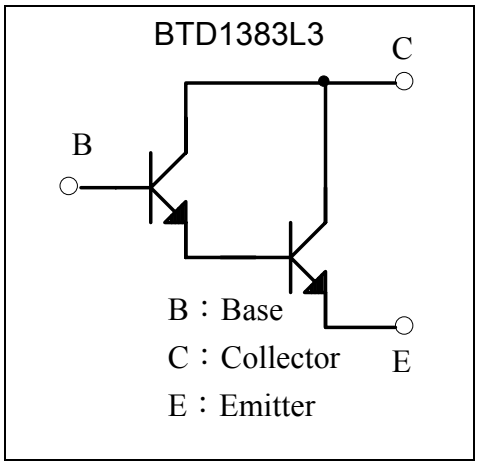
General Purpose NPN Epitaxial Planar Transistor

BTD1383L3

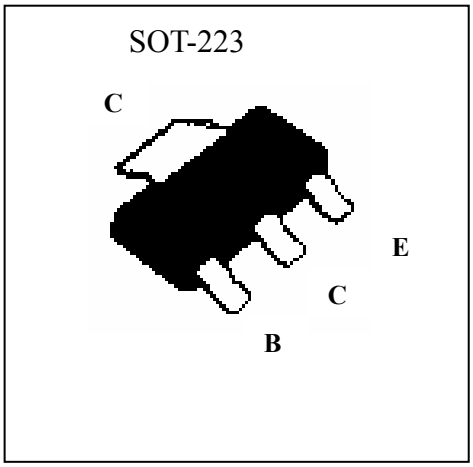
Description

- The BTD1383L3 is a darlington amplifier transistor.

Symbol



Outline



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CES}	32	V
Emitter-Base Voltage	V_{EBO}	10	V
Collector Current (DC)	I_C	0.3	A
Collector Current (Pulse)	I_{CP}	1.5 (Note 1)	A
Power Dissipation @T_A=25°C	Pd	1.5 (Note 2)	W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	83.3 (Note 2)	°C/W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55~+150	°C

Note : 1.Single pulse test, P_W=10ms

2 .Device mounted on a glass epoxy printed circuit board 1.575 in × 1.575 in × 0.059 in : mounting pad for the collector lead min 0.93 in^2 .

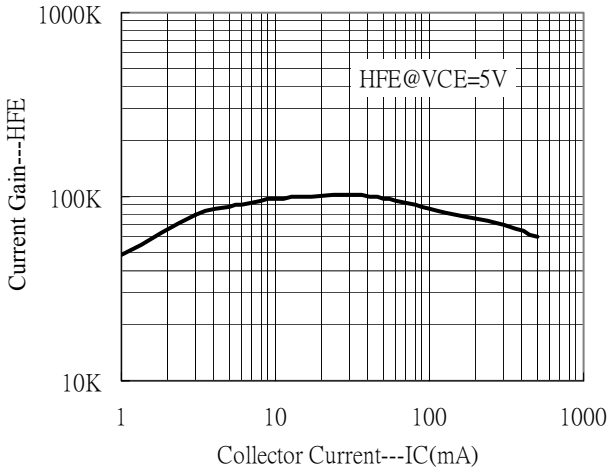
Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	40	-	-	V	I_C=100μA
BV_{CES}	32	-	-	V	I_C=1mA, R_{BE}=0Ω
BV_{EBO}	10	-	-	V	I_E=100μA
I_{CBO}	-	-	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
*$h_{FE}1$	10K	-	-		V_{CE}=5V, I_C=10mA
*$h_{FE}2$	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

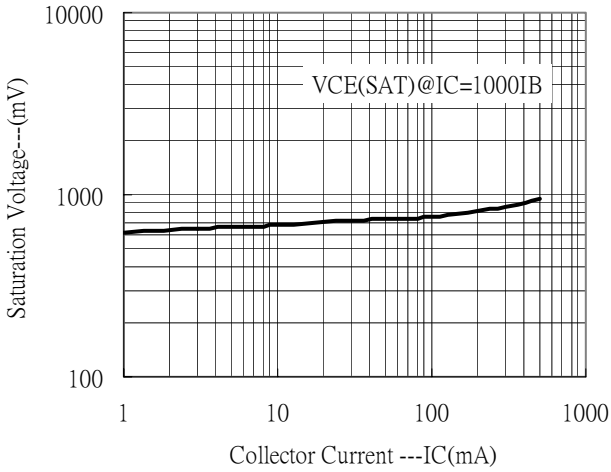
*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

Characteristic Curves

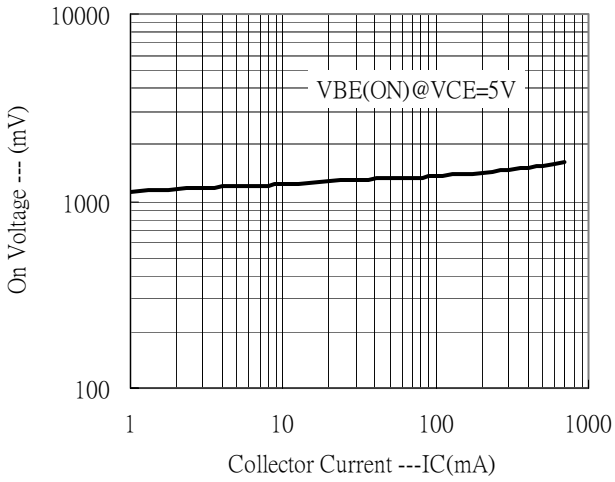
Current Gain vs Collector Current



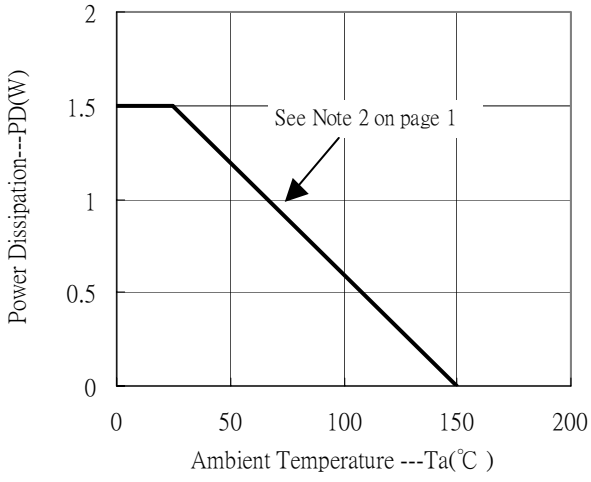
Saturation Voltage vs Collector Current



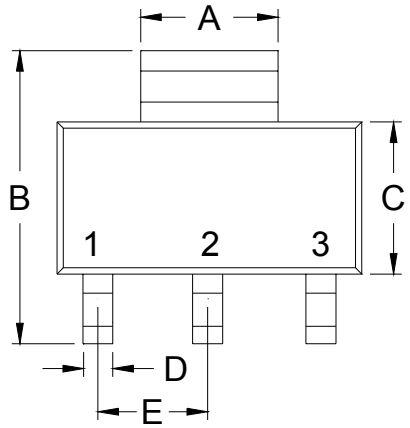
On Voltage vs Collector Current

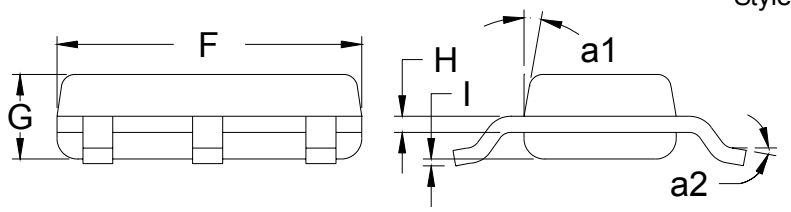


Power Derating Curve

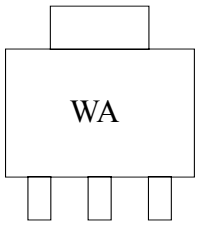


SOT-223 Dimension





Marking:



Style: Pin 1.Base 2.Collector 3.Emitter

3-Lead SOT-223 Plastic
Surface Mounted Package
CYStek Package Code: L3

*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1142	0.1220	2.90	3.10	G	0.0551	0.0709	1.40	1.80
B	0.2638	0.2874	6.70	7.30	H	0.0098	0.0138	0.25	0.35
C	0.1299	0.1457	3.30	3.70	I	0.0008	0.0039	0.02	0.10
D	0.0236	0.0315	0.60	0.80	a1	*13°	-	*13°	-
E	*0.0906	-	*2.30	-	a2	0°	10°	0°	10°
F	0.2480	0.2638	6.30	6.70					

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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