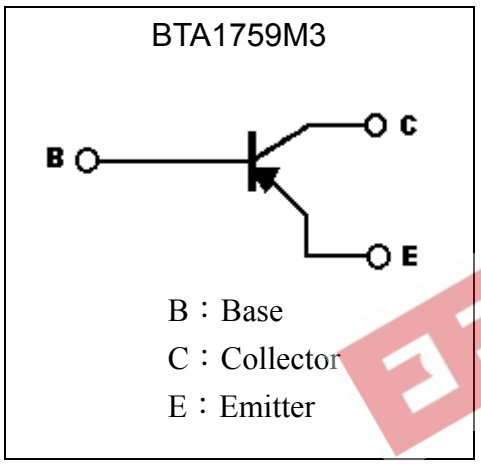
High Voltage PNP Epitaxial Planar Transistor

BTA1759M3

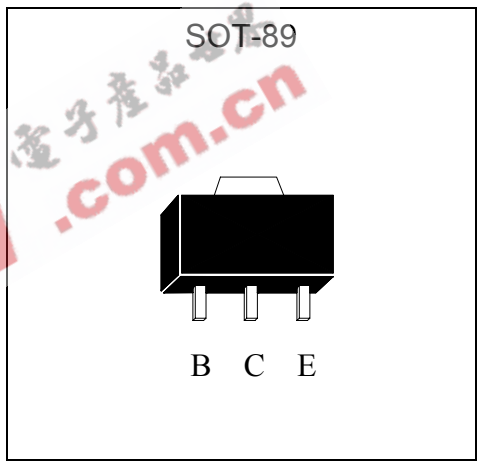
Description

- High breakdown voltage. (BV_{CEO}=-400V)
- Low saturation voltage, typically $V_{CE(sat)}$ = -0.07V at I_C/I_B =-10mA/-1mA.
- Wide SOA (safe operation area).
- Complementary to BTC4505M3.

Symbol



Outline



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	-400	V
Collector-Emitter Voltage	V_{CEO}	-400	V
Emitter-Base Voltage	V_{EBO}	-6	V
Collector Current	I_C	-300	mA
Power Dissipation	Pd	0.6	W
		1 (Note 1)	W
		2 (Note 2)	W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	208	°C/W
		125 (Note 1)	°C/W
		62.5 (Note 2)	°C/W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55~+150	°C

Note : 1.When mounted on FR-4 PCB with area measuring 10×10×1 mm
2.When mounted on ceramic with area measuring 40×40×1 mm

Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	-400	-	-	V	I_C=-50μA
BV_{CEO}	-400	-	-	V	I_C=-1mA
BV_{EBO}	-6	-	-	V	I_E=-50μA
I_{CBO}	-	-	-10	μA	V_{CB}=-400V
I_{EBO}	-	-	-10	μA	V_{EB}=-6V
I_{CES}	-	-	-10	μA	V_{CB}=-400V
$V_{CE(sat)}$ 1	-	-	-0.2	V	I_C=-1mA, I_B=-0.1mA
*$V_{CE(sat)}$ 2	-	-	-0.3	V	I_C=-10mA, I_B=-1mA
*$V_{CE(sat)}$ 3	-	-	-0.6	V	I_C=-50mA, I_B=-5mA
*$V_{BE(sat)}$	-	-	-0.9	V	I_C=-20mA, I_B=-2mA
h_{FE} 1	50	-	-	-	V_{CE}=-10V, I_C=-1mA
*h_{FE} 2	56	-	270	-	V_{CE}=-10V, I_C=-10mA
*h_{FE} 3	50	-	-	-	V_{CE}=-10V, I_C=-50mA
*h_{FE} 4	40	-	-	-	V_{CE}=-10V, I_C=-100mA
Cob	-	-	6	pF	V_{CB}=-10V, I_E=0A,f=1MHz

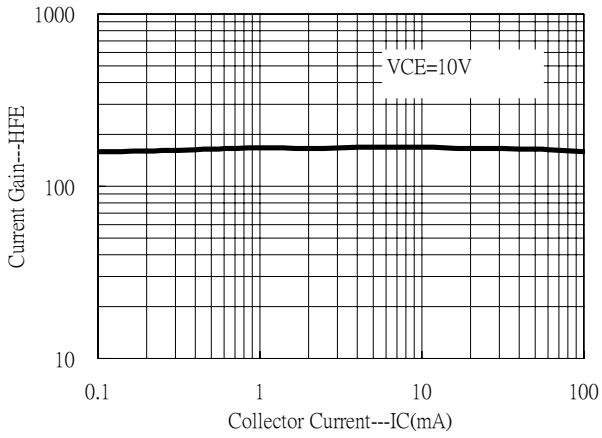
*Pulse Test: Pulse Width ≤380μs, Duty Cycle≤2%

Classification Of h_{FE}

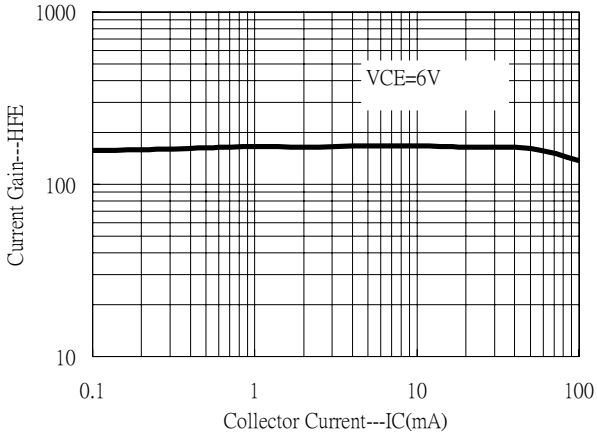
Rank	K	P	Q
Range	56~120	82~180	120~270

Characteristic Curves

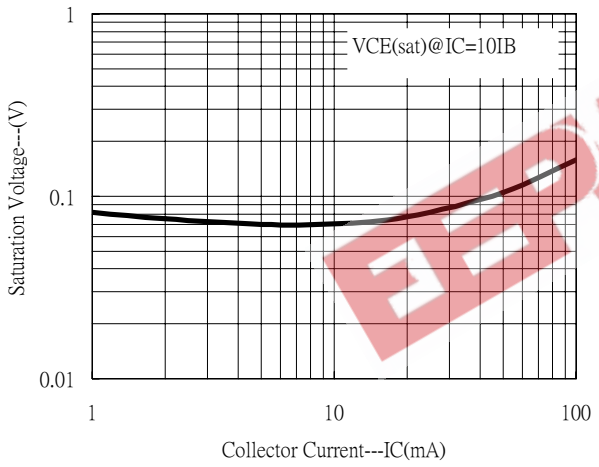
Current Gain vs Collector Current



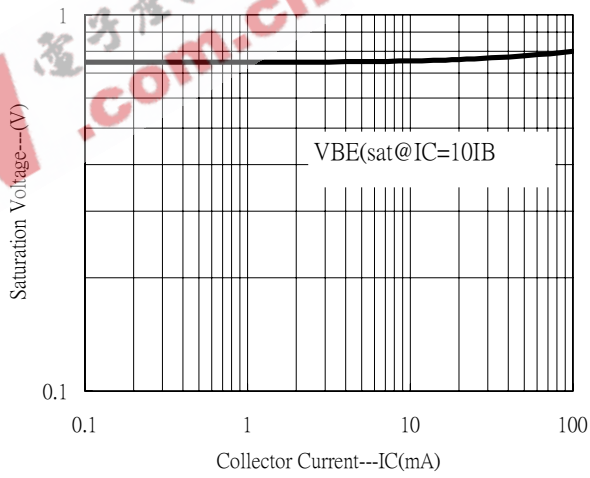
Current Gain vs Collector Current



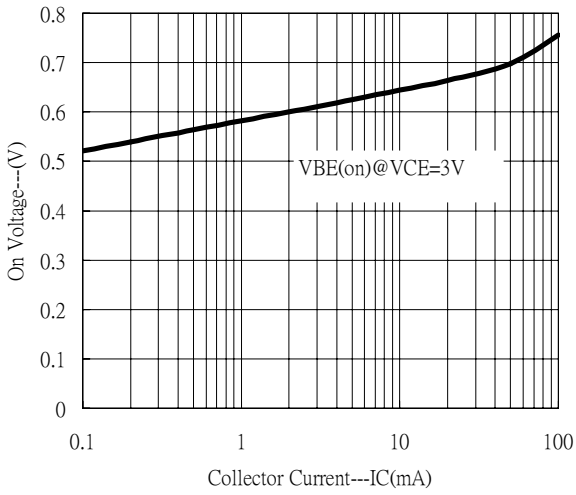
Saturation Voltage vs Collector Current



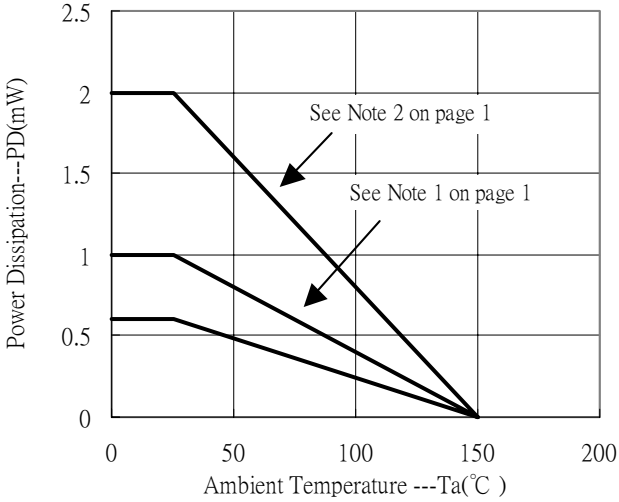
Saturation Voltage vs Collector Current



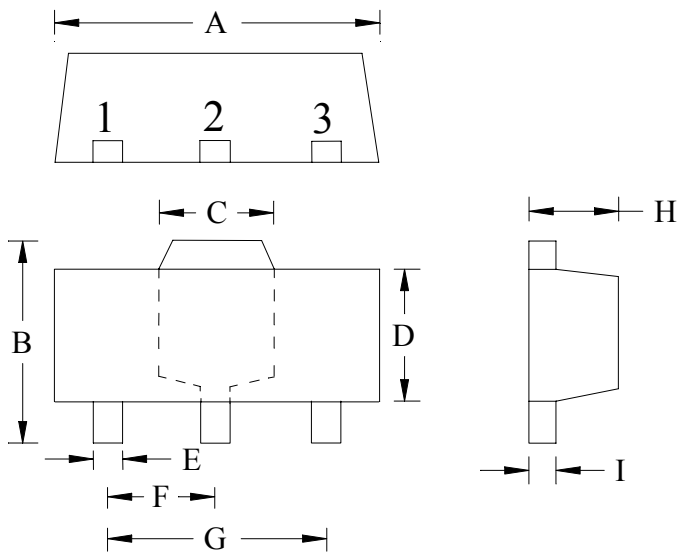
On Voltage vs Collector Current



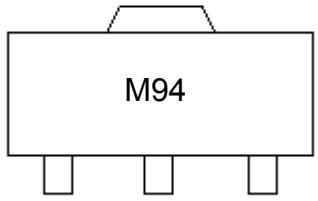
Power Derating Curves



SOT-89 Dimension



Marking:



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

3-Lead SOT-89 Plastic
Surface Mounted Package
CYStek Package Code: M3

*: 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