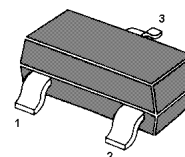


MMBTSA1504 PNP Silicon Epitaxial Planar Transistor

For switching and general purpose applications.

The transistor is subdivided into three groups O, Y and G, according to its DC current gain.



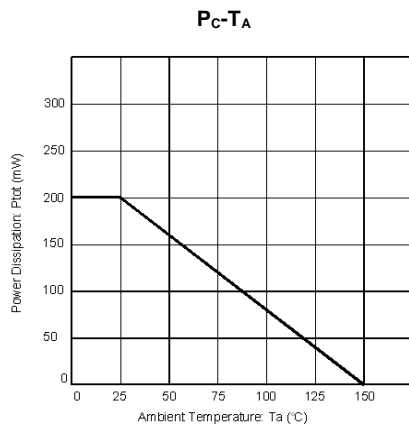
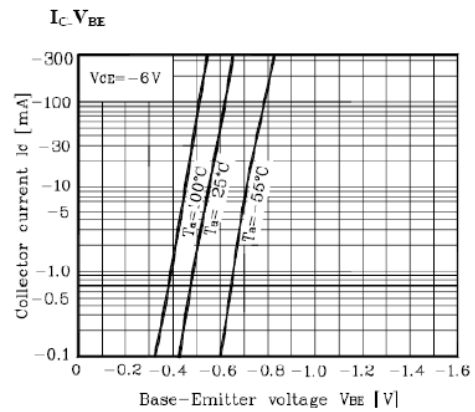
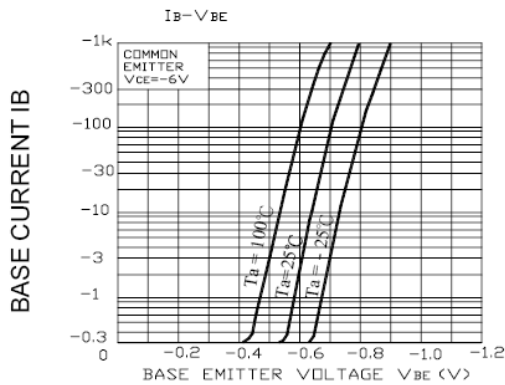
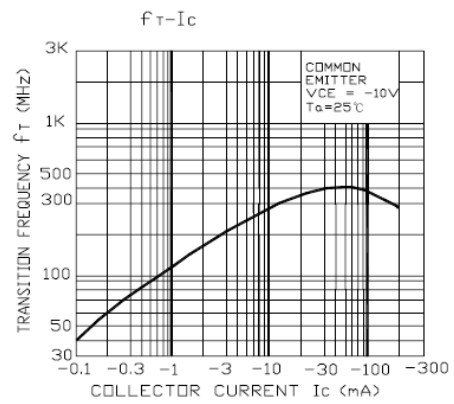
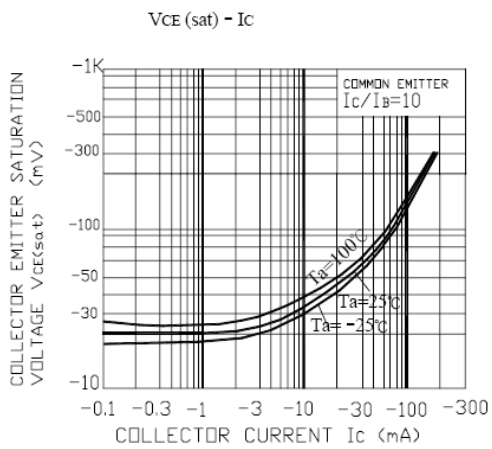
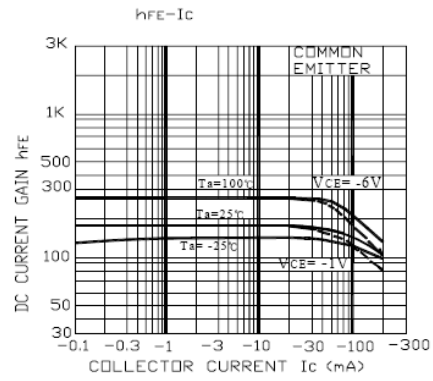
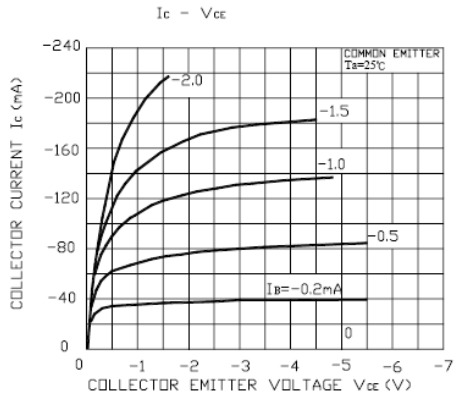
1. Base 2. Emitter 3. Collector
SOT-23 Plastic Package

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

Parameter	Symbol	Value	Unit
Collector Emitter Voltage	$-V_{CEO}$	50	V
Collector Base Voltage	$-V_{CBO}$	50	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	150	mA
Base Current	$-I_B$	30	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

Characteristics at $T_{amb}=25\text{ }^\circ\text{C}$

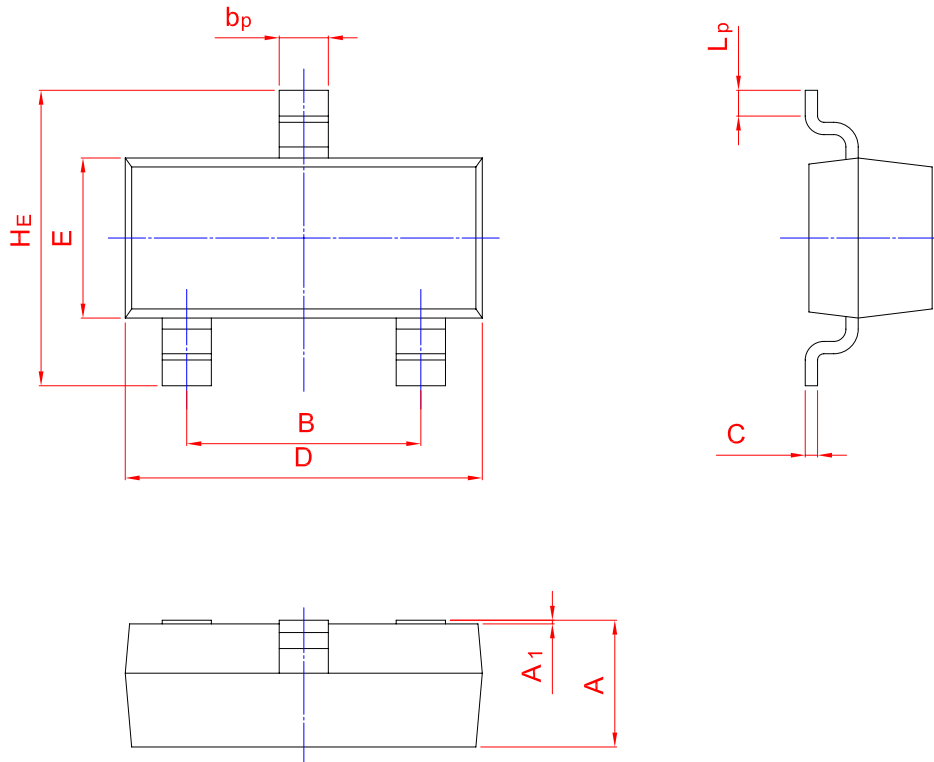
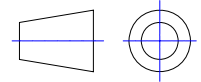
Parameter	Symbol	Min.	Typ.	Max.	Unit	
DC Current Gain at $-V_{CE} = 6\text{ V}$, $-I_C = 2\text{ mA}$ Current Gain Group	O	h_{FE}	70	-	140	-
	Y	h_{FE}	120	-	240	-
	G	h_{FE}	200	-	400	-
Collector Base Cutoff Current at $-V_{CB} = 50\text{ V}$	$-I_{CBO}$	-	-	0.1	μA	
Emitter Base Cutoff Current at $-V_{EB} = 5\text{ V}$	$-I_{EBO}$	-	-	0.1	μA	
Collector Emitter Saturation Voltage at $-I_C = 100\text{ mA}$, $-I_B = 10\text{ mA}$	$-V_{CE(sat)}$	-	-	0.3	V	
Transition Frequency at $-V_{CE} = 10\text{ V}$, $-I_C = 1\text{ mA}$	f_T	80	-	-	MHz	
Collector Output Capacitance at $-V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	4	7	pF	
Noise Figure at $-V_{CE} = 6\text{ V}$, $-I_C = 0.1\text{ mA}$, $f = 1\text{ KHz}$, $R_G = 10\text{ K}\Omega$	NF	-	1	10	dB	



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	bp	C	D	E	Hε	A1	Lp
mm	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50
	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20