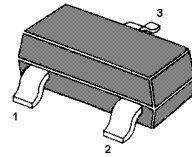


MMBTSA1504

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

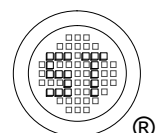
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

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

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance - Junction to Ambient ¹⁾	$R_{\theta\text{JA}}$	625	$^\circ\text{C/W}$

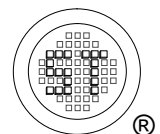
¹⁾ Device mounted on FR-4 substrate PC board, with minimum recommended pad layout.



MMBTSA1504

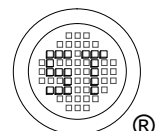
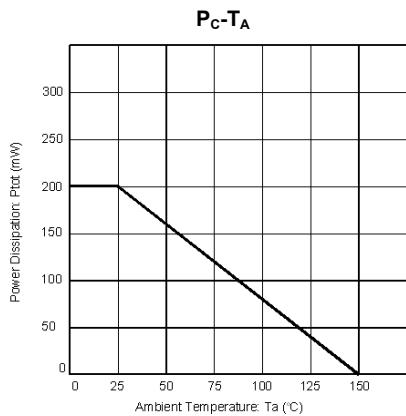
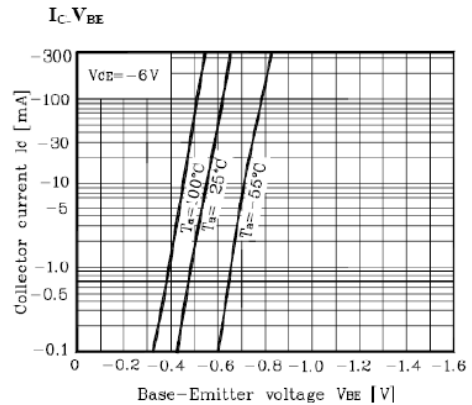
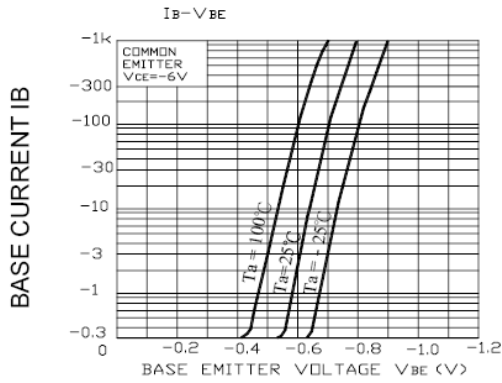
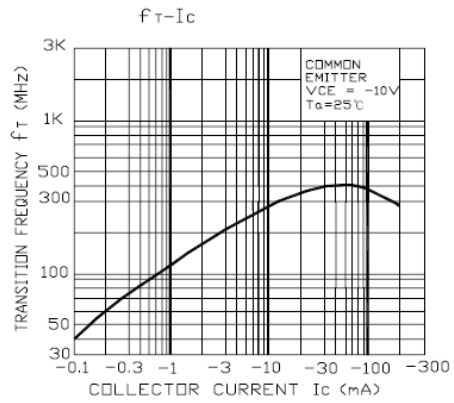
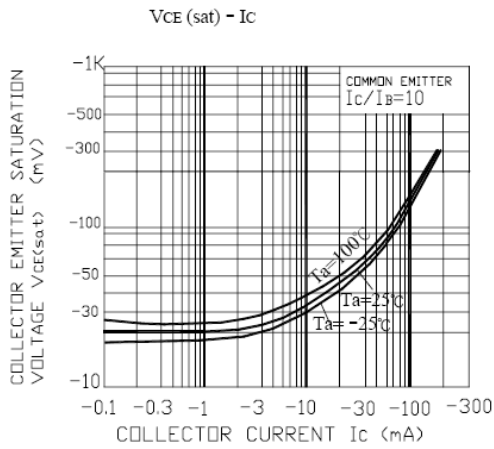
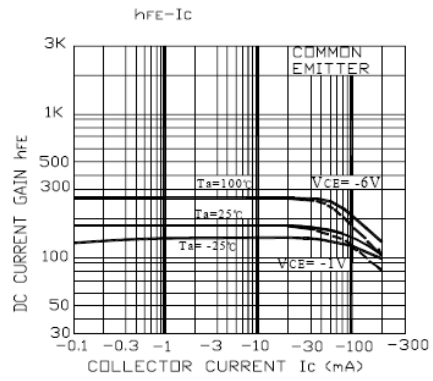
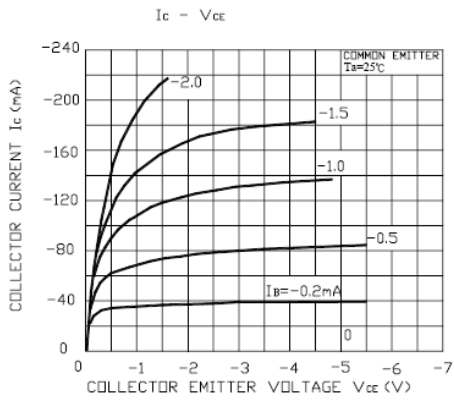
Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $-V_{CE} = 6\text{ V}$, $-I_C = 2\text{ mA}$ Current Gain Group	O	70	140	-
	Y	120	240	-
	G	200	400	-
Collector Base Cutoff Current at $-V_{CB} = 50\text{ V}$	$-I_{CBO}$	-	100	nA
Emitter Base Cutoff Current at $-V_{EB} = 5\text{ V}$	$-I_{EBO}$	-	100	nA
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}	-	7	pF



MMBTA1504

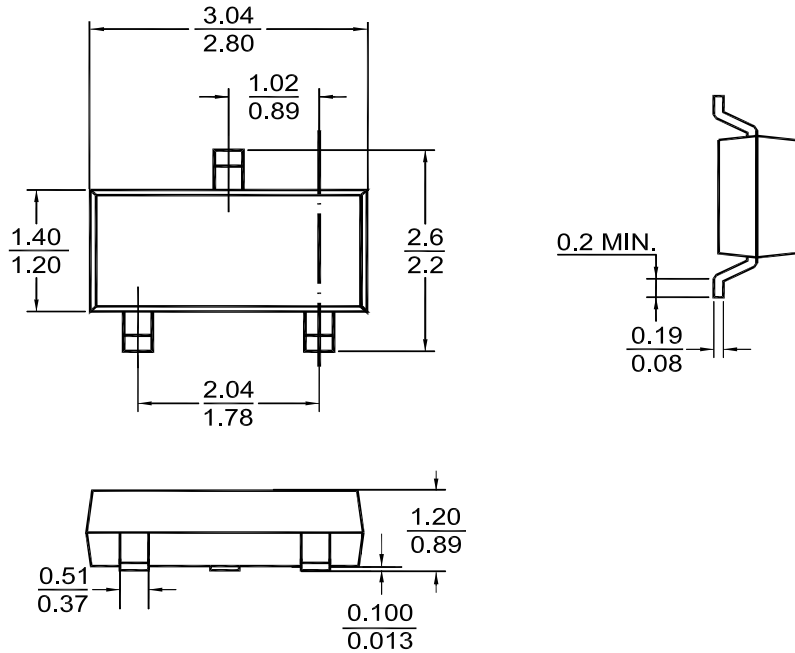
Electrical characteristic curves



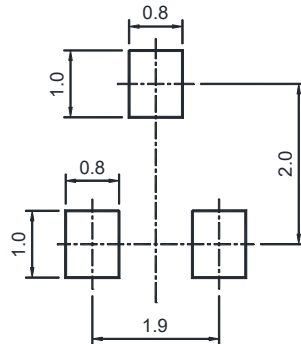
MMBTSA1504

Package Outline (Dimensions in mm)

SOT-23



Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOT-23	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

Marking information

"**" = Part No. (MMBTSA1504O/Y/G = "3L""3E""3F")

"YM" = Date Code Marking

"Y" = Year

"M" = Month

Font type: Arial

