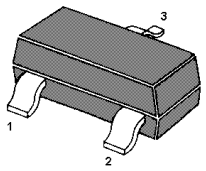
MMBTSA1037-AH

PNP Silicon Epitaxial Planar Transistor

The transistor is subdivided into three groups Q, R and S according to its DC current gain.

On special request, these transistors can be manufactured in different pin configurations.



1.BASE 2.EMITTER 3.COLLECTOR

TO-236 Plastic Package

Features

- AEC-Q101 is Qualified
- Halogen and Antimony Free(HAF), RoHS compliant

Absolute Maximum Ratings (T_a = 25℃)

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	60	V
Collector Emitter Voltage	$-V_{CEO}$	50	V
Emitter Base Voltage	$-V_{EBO}$	6	V
Collector Current	$-I_C$	150	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	- 55 to + 150	℃

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance - Junction to Ambient [1)]	$R_{\theta JA}$	625	℃/W

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

Dated：25/12/2020 IYC0 Rev：01

Characteristics at T_a =25℃

Parameter		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain						
at $-V_{CE}$ = 6 V, $-I_C$ = 1 mA Current Gain Group	Q	h_{FE}	120	-	270	-
	R	h_{FE}	180	-	390	-
	S	h_{FE}	270	-	560	-
Collector Base Cutoff Current at $-V_{CB}$ = 60 V		$-I_{CBO}$	-	-	100	nA
Emitter Base Cutoff Current at $-V_{EB}$ = 6 V		$-I_{EBO}$	-	-	100	nA
Collector Base Breakdown Voltage at $-I_C$ = 50 μA		$-V_{(BR)CBO}$	60	-	-	V
Collector Emitter Breakdown Voltage at $-I_C$ = 1 mA		$-V_{(BR)CEO}$	50	-	-	V
Emitter Base Breakdown Voltage at $-I_E$ = 50 μA		$-V_{(BR)EBO}$	6	-	-	V
Collector Emitter Saturation Voltage at $-I_C$ = 50 mA, $-I_B$ = 5 mA		$-V_{CE(sat)}$	-	-	0.5	V
Transition Frequency at $-V_{CE}$ = 12 V, I_E = 2 mA, f = 30 MHz		f_T	-	140	-	MHz
Output Capacitance at $-V_{CB}$ = 12 V, f = 1 MHz		C_{ob}	-	-	5	pF

Electrical Characteristics Curves

Fig 1. Output Characteristics

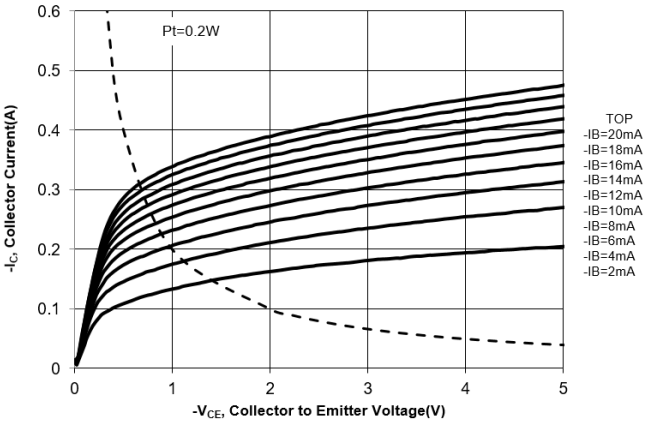


Fig 2. Output Characteristics

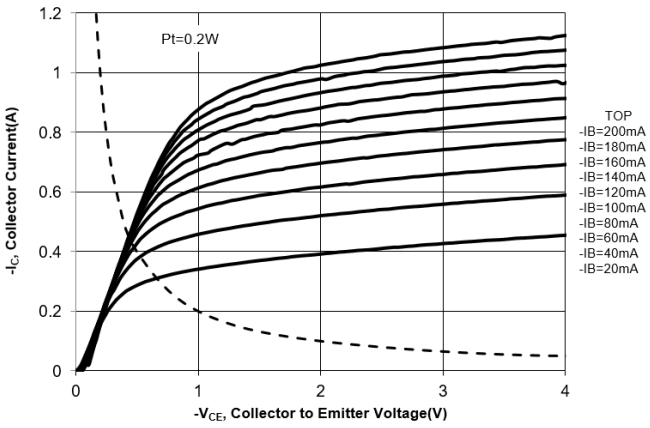


Fig 3. Collector Current vs. V_{BE}

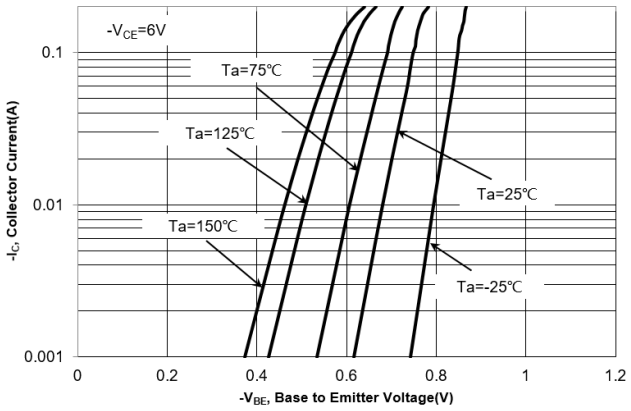
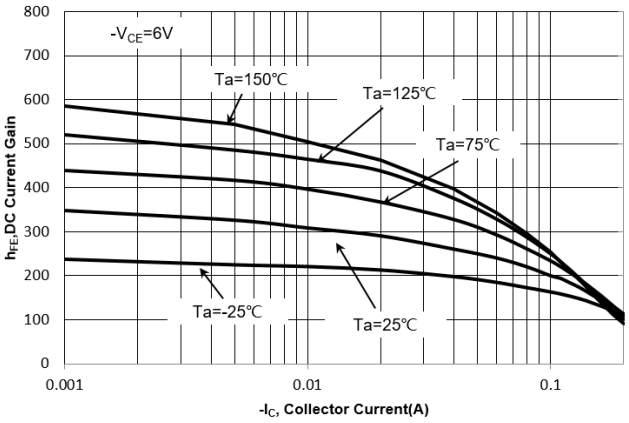


Fig 4. DC Current Gain vs. Collector Current



Electrical Characteristics Curves

Fig 5. Power Dissipation vs. Ambient Temperature

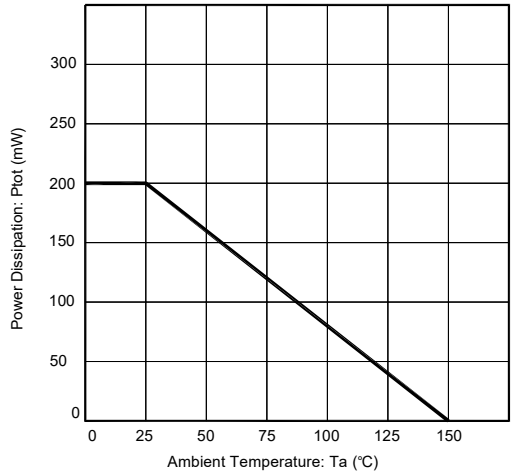


Fig 6. V_{BESAT} vs. Collector Current

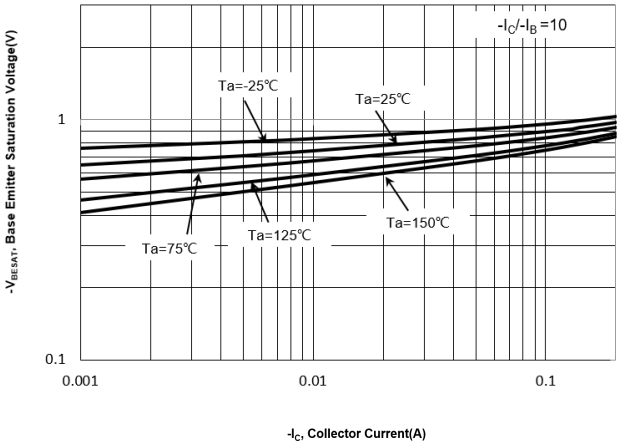


Fig 7. V_{CESAT} vs. Collector Current

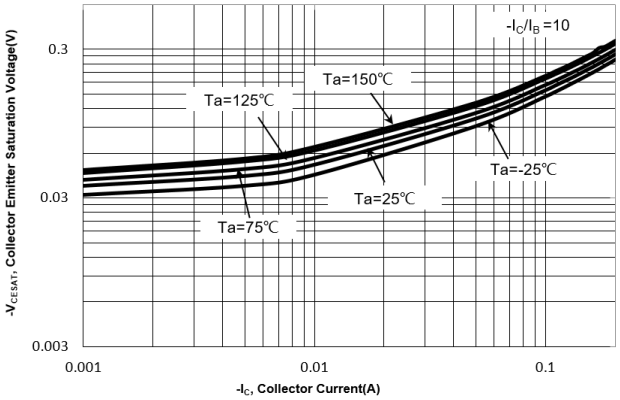
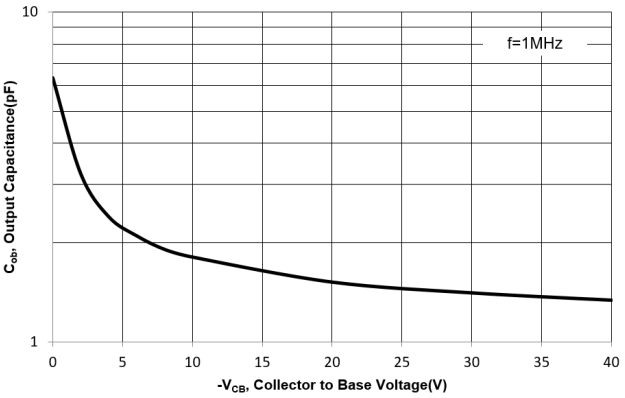
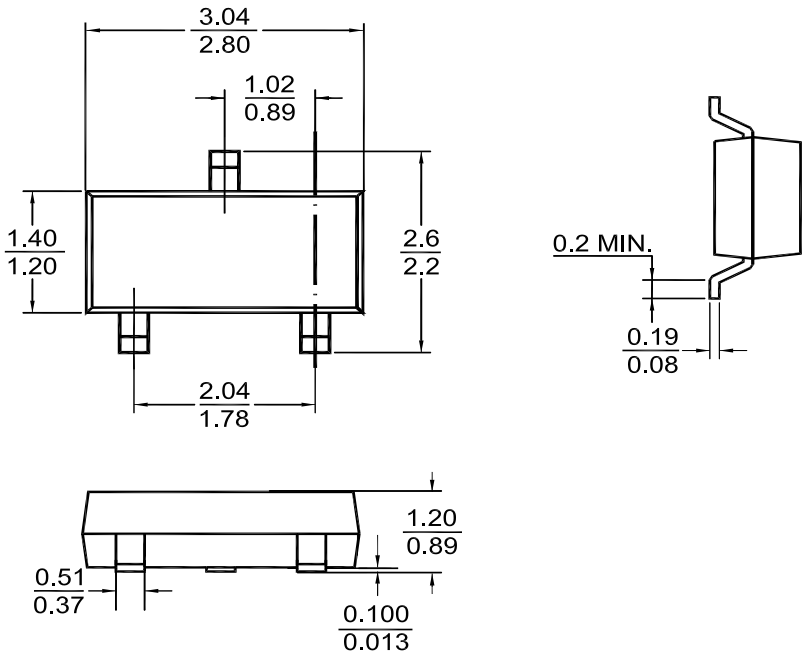


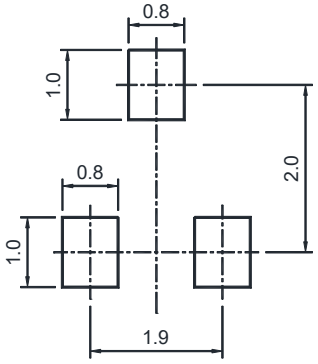
Fig 8. Output Capacitance



Package Outline (Dimensions in mm) TO-236



Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
TO-236	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

Marking information

" ** " = Part No.

" • " = HAF (Halogen and Antimony Free)

"YM" = Date Code Marking

"Y" = Year

"M" = Month

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