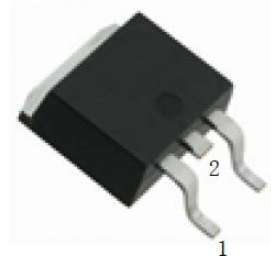


MJD42R-HAF

PNP Silicon Epitaxial Planar Power Transistor

Features

- Halogen and Antimony Free(HAF), RoHS compliant



1.Base 2.Collector 3.Emitter
TO-252 Plastic Package

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	100	V
Collector Emitter Voltage	$-V_{CEO}$	100	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	6	A
Peak Collector Current, Pulsed	$-I_{CM}$	10	A
Base Current	$-I_B$	2	A
Total Power Dissipation	P_D	$T_c = 25^\circ\text{C}$ 20 $T_a = 25^\circ\text{C}$ 1.75	W
Operating Junction Temperature	T_j	- 65 to + 150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Case	$R_{\theta JC}$	6.25	$^\circ\text{C/W}$
Thermal Resistance from Junction to Ambient ¹⁾	$R_{\theta JA}$	71.4	$^\circ\text{C/W}$

¹⁾ Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.

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Characteristics at $T_j = 25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $-V_{CE} = 4\text{ V}$, $-I_C = 3\text{ A}$ at $-V_{CE} = 4\text{ V}$, $-I_C = 0.3\text{ A}$	h_{FE} h_{FE}	15 30	75 -	- -
Collector Emitter Sustaining Voltage at $-I_C = 30\text{ mA}$	$-V_{CEO(SUS)}$	100	-	V
Collector Cutoff Current at $-V_{CE} = 60\text{ V}$	$-I_{CEO}$	-	50	μA
Collector Cutoff Current at $-V_{CB} = 100\text{ V}$	$-I_{CES}$	-	10	μA
Emitter Base Cutoff Current at $-V_{EB} = 5\text{ V}$	$-I_{EBO}$	-	0.5	mA
Collector Emitter Saturation Voltage at $-I_C = 6\text{ A}$, $-I_B = 0.6\text{ A}$	$-V_{CE(sat)}$	-	1.5	V
Base Emitter On Voltage at $-V_{CE} = 4\text{ V}$, $-I_C = 6\text{ A}$	$-V_{BE(ON)}$	-	2	V
Current Gain Bandwidth Product at $-V_{CE} = 10\text{ V}$, $-I_C = 0.5\text{ A}$, $f = 1\text{ MHz}$	f_T	3	-	MHz

MJD42R-HAF

Electrical Characteristics Curves

Fig. 1 HFE vs. I_c

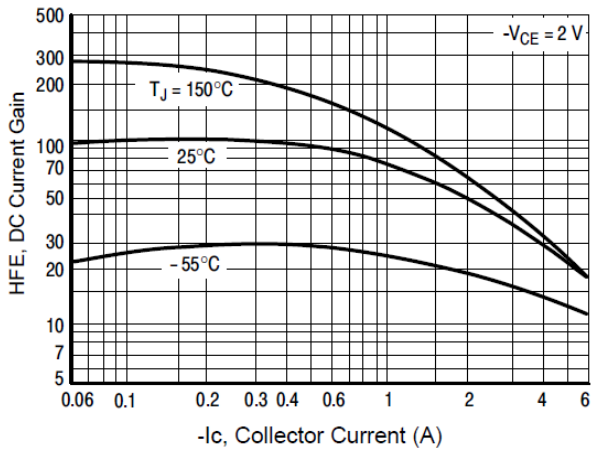


Fig. 2 Time vs. I_c

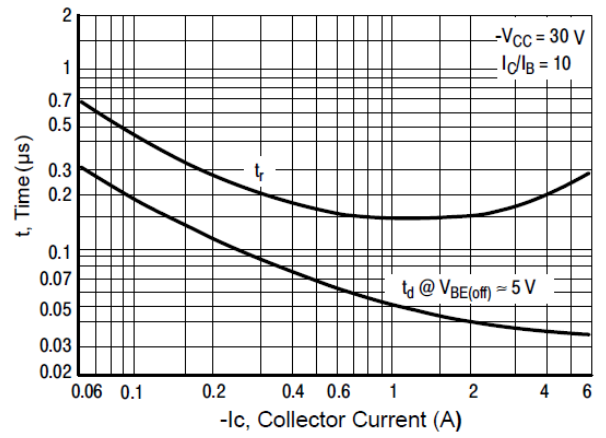


Fig. 3 $V_{BE(ON)}$ vs. I_c

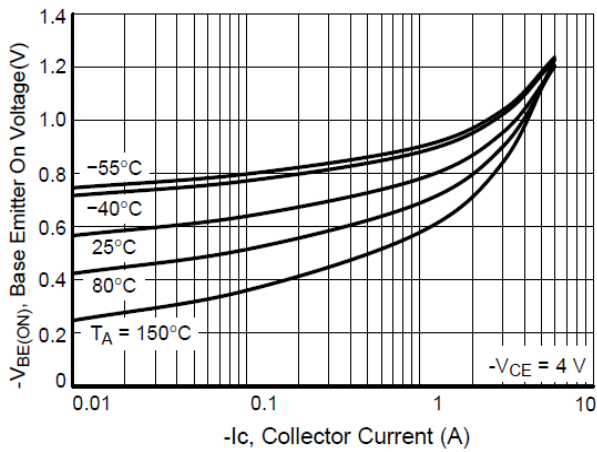


Fig. 4 $V_{BE(sat)}$ vs. I_c

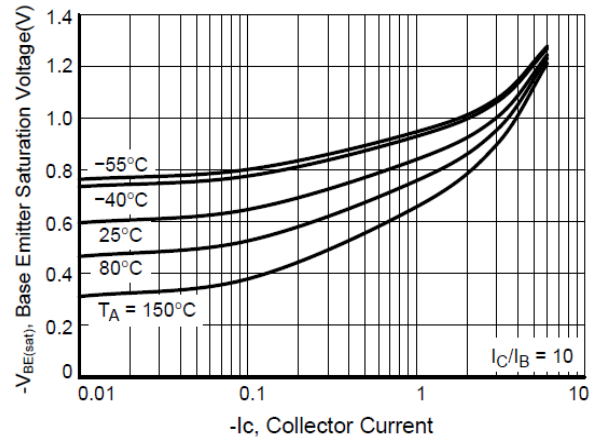


Fig. 5 $V_{CE(sat)}$ vs. I_c

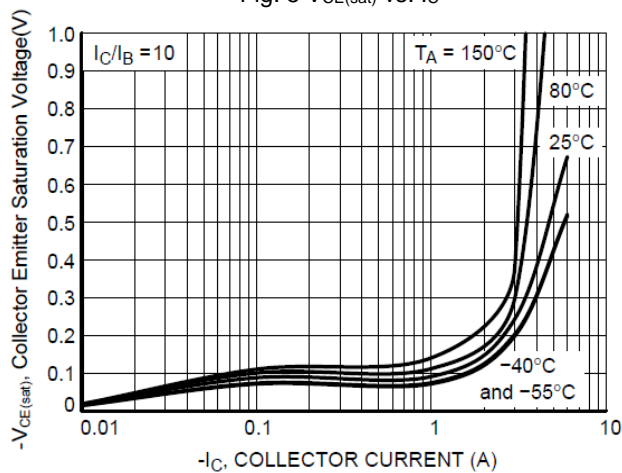
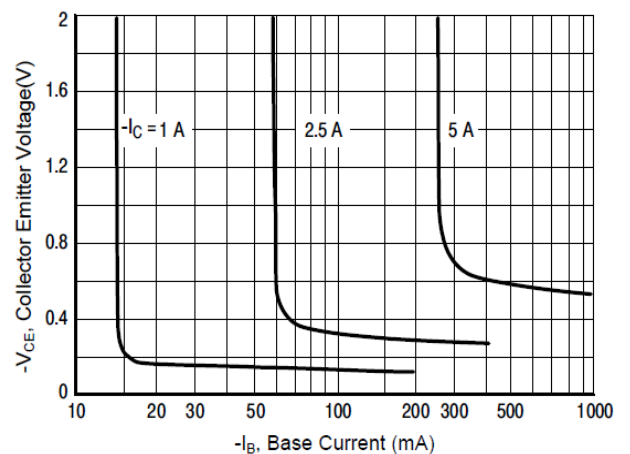


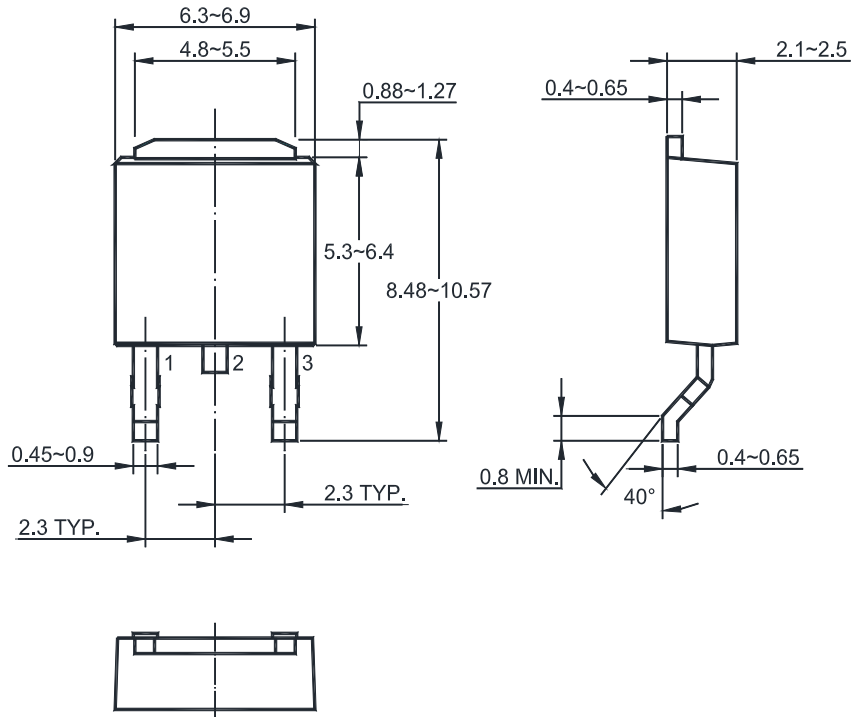
Fig. 6 V_{CE} vs. I_b



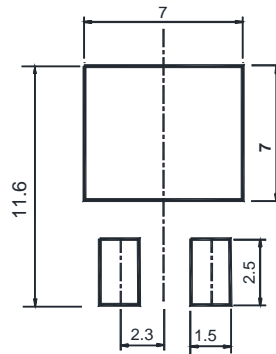
MJD42R-HAF

Package Outline (Dimensions in mm)

TO-252



Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
TO-252	12	8 ± 0.1	0.315 ± 0.004	330	13	2,500

Marking information

" MJD42R " = Part No.

" ***** " = Date Code Marking

Font type: Arial

