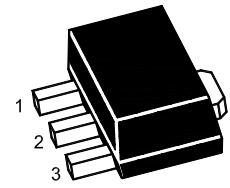


2SC4378U-HAF

NPN Silicon Epitaxial Planar Transistor

Features

- Halogen and Antimony Free(HAF),
RoHS compliant



1.Base 2.Collector 3.Emitter
SOT-89 Plastic Package

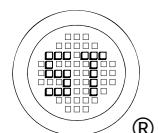
Absolute Maximum Ratings (at $T_a = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	80	V
Collector Emitter Voltage	V_{CEO}	60	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	1	A
Peak Collector Current	I_{CP}	2	A
Total Power Dissipation	P_{tot}	0.5 1 ¹⁾	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

¹⁾ When mounted on a 250 mm² x 0.8 t ceramic substrate.

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

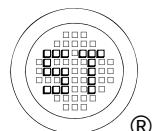
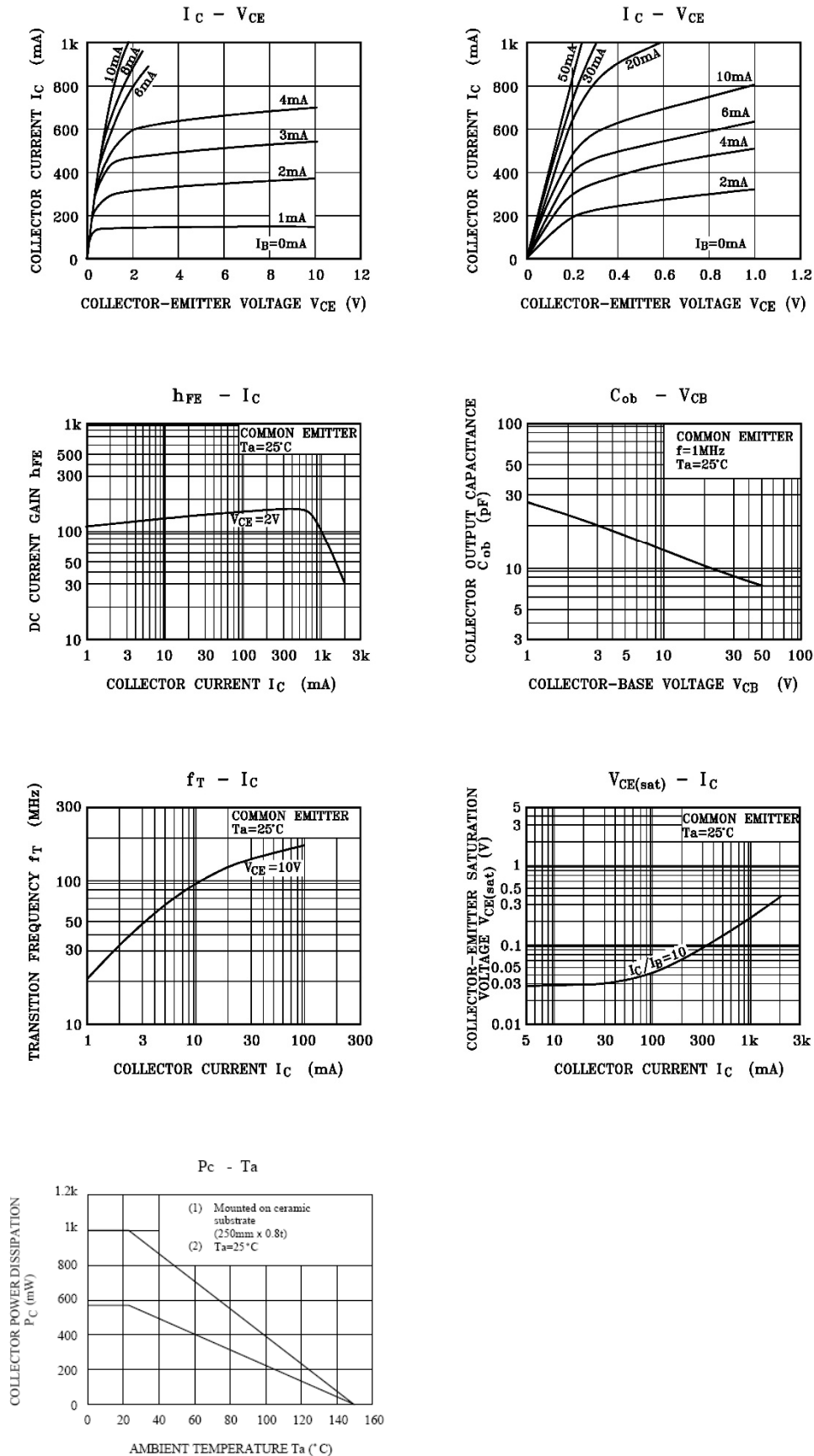
Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 2\text{ V}$, $I_C = 50\text{ mA}$ at $V_{CE} = 2\text{ V}$, $I_C = 1\text{ A}$ Current Gain Group Y G	h_{FE}	100	-	200	-
	h_{FE}	160	-	320	-
	h_{FE}	30	-	-	-
	h_{FE}	30	-	-	-
Collector Base Cutoff Current at $V_{CB} = 50\text{ V}$	I_{CBO}	-	-	100	nA
Emitter Base Cutoff Current at $V_{EB} = 4\text{ V}$	I_{EBO}	-	-	100	nA
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	$V_{(BR)CEO}$	60	-	-	V
Collector Emitter Saturation Voltage at $I_C = 500\text{ mA}$, $I_B = 50\text{ mA}$	$V_{CE(sat)}$	-	-	0.5	V
Base Emitter Saturation Voltage at $I_C = 500\text{ mA}$, $I_B = 50\text{ mA}$	$V_{BE(sat)}$	-	-	1.2	V
Transition Frequency at $V_{CE} = 10\text{ V}$, $I_C = 50\text{ mA}$	f_T	-	150	-	MHz
Collector Output Capacitance at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	12	-	pF



®

2SC4378U-HAF

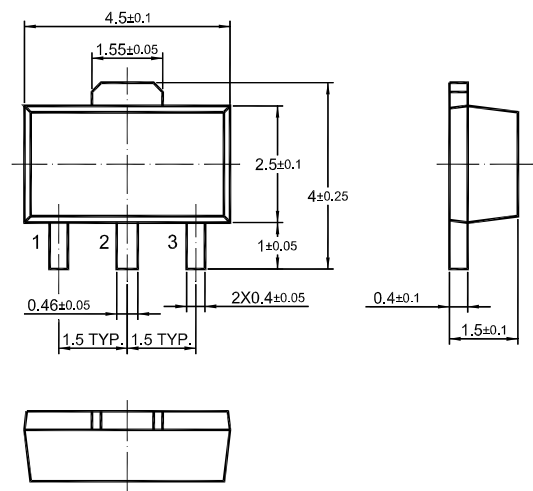
Electrical Characteristics Curves



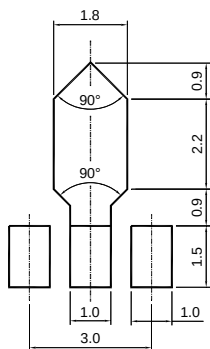
2SC4378U-HAF

Package Outline (Dimensions in mm)

SOT-89



Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOT-89	12	8 ± 0.1	0.315 ± 0.004	178	7	1,000
				330	13	4,000

Marking information

" 2SC4378U " = Part No.
" • " = HAF (Halogen and Antimony Free)
"YM" = Date Code Marking
"Y" = Year
"M" = Month
Font type: Arial

