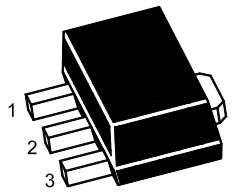
2N2222AU

NPN Silicon Epitaxial Planar Transistor

for switching and AF amplifier applications.



1.Base 2.Collector 3.Emitter

SOT-89 Plastic Package

Absolute Maximum Ratings (T_a = 25℃)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	75	V
Collector Emitter Voltage	V_{CEO}	40	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current	I_C	600	mA
Power Dissipation [1]	P_{tot}	625	mW
Power Dissipation [2]	P_{tot}	1.1	W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	- 55 to + 150	℃

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	200 [1] 114 [2]	℃/W

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

[2] Device mounted on FR-4 substrate PC board, 2oz copper, with 1-inch square copper plate.

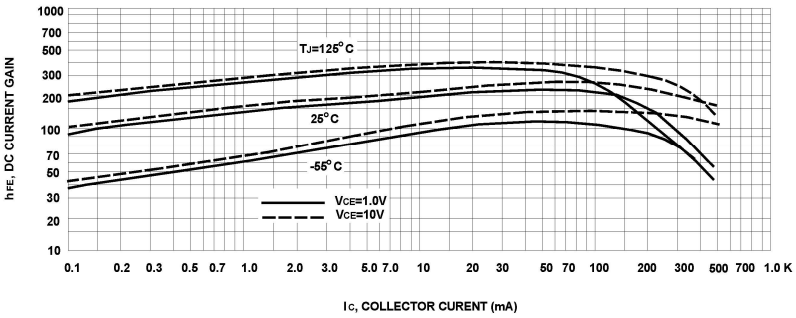
Dated：12/01/2021 Rev：04

Characteristics at T_a = 25℃

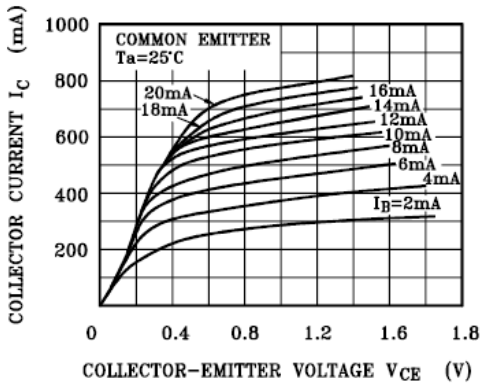
Parameter	Symbol	Min.	Max.	Unit
DC Current Gain				
at V_{CE} = 10 V, I_C = 0.1 mA	h_{FE}	35	-	-
at V_{CE} = 10 V, I_C = 1 mA	h_{FE}	50	-	-
at V_{CE} = 10 V, I_C = 10 mA	h_{FE}	75	-	-
at V_{CE} = 10 V, I_C = 150 mA	h_{FE}	100	300	-
at V_{CE} = 10 V, I_C = 500 mA	h_{FE}	40	-	-
Collector Base Cutoff Current at V_{CB} = 60 V	I_{CBO}	-	10	nA
Collector Base Breakdown Voltage at I_C = 10 µA	$V_{(BR)CBO}$	75	-	V
Collector Emitter Breakdown Voltage at I_C = 10 mA	$V_{(BR)CEO}$	40	-	V
Emitter Base Breakdown Voltage at I_E = 10 µA	$V_{(BR)EBO}$	6	-	V
Collector Emitter Saturation Voltage	$V_{CE(sat)}$			V
at I_C = 150 mA, I_B = 15 mA		-	0.3	
at I_C = 500 mA, I_B = 50 mA		-	1	
Base Emitter Saturation Voltage	$V_{BE(sat)}$			V
at I_C = 150 mA, I_B = 15 mA		0.6	1.2	
at I_C = 500 mA, I_B = 50 mA		-	2	
Gain Bandwidth Product at I_C = 20 mA, V_{CE} = 20 V, f = 100 MHz	f_T	250	-	MHz
Collector Output Capacitance at V_{CB} = 10 V, f = 1 MHz	C_{ob}	-	8	pF

Electrical Characteristics Curves

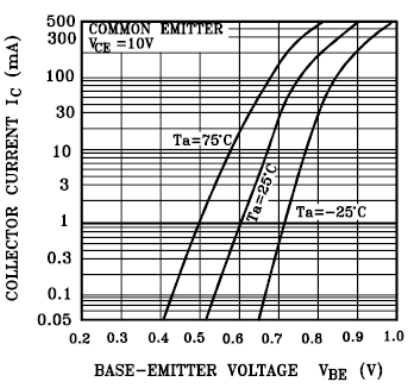
Figure 1. DC Current Gain



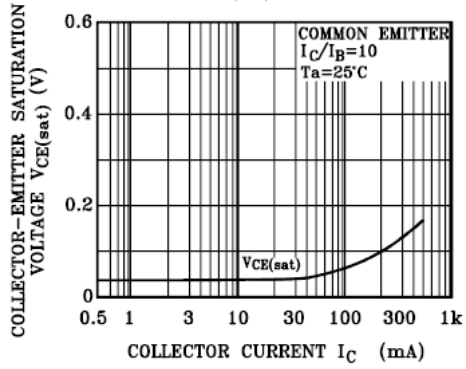
$I_C - V_{CE}$



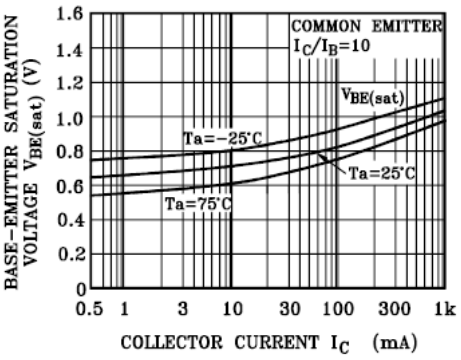
$I_C - V_{BE}$



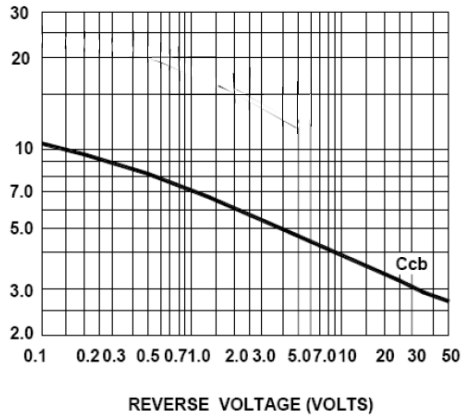
$V_{CE(sat)} - I_C$



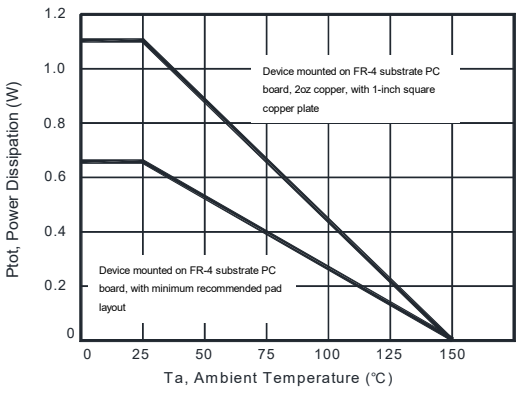
$V_{BE(sat)} - I_C$



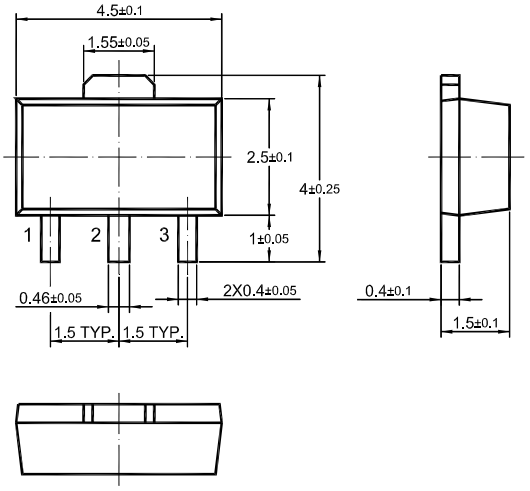
Capacitances



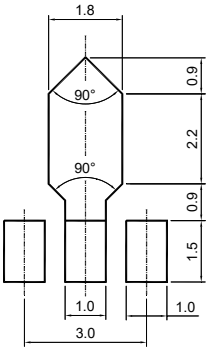
$P_D - T_a$



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

" 2N2222AU " = Part No.
"YM" = Date Code Marking
"Y" = Year
"M" = Month
Font type: Arial