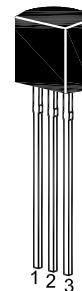


2N2222 / 2N2222A

NPN Silicon Epitaxial Planar Transistor

Features

- On special request, these transistors can be manufactured in different pin configurations.
- Low Collector Emitter Saturation Voltage



1. Emitter 2. Base 3. Collector
TO-92 Plastic Package

Applications

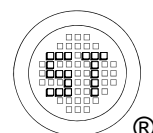
- Switching and AF Amplifier applications.

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

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	60 75	V
Collector Emitter Voltage	V_{CEO}	30 40	V
Emitter Base Voltage	V_{EBO}	5 6	V
Collector Current	I_{C}	600	mA
Power Dissipation	P_{tot}	625	mW
Junction Temperature	T_{j}	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

Thermal Characteristics

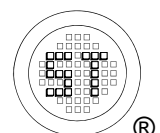
Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient	$R_{\theta\text{JA}}$	200	$^\circ\text{C/W}$



2N2222 / 2N2222A

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

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain				
at $V_{CE} = 10\text{ V}$, $I_C = 0.1\text{ mA}$	h_{FE}	35	-	-
at $V_{CE} = 10\text{ V}$, $I_C = 1\text{ mA}$	h_{FE}	50	-	-
at $V_{CE} = 10\text{ V}$, $I_C = 10\text{ mA}$	h_{FE}	75	-	-
at $V_{CE} = 10\text{ V}$, $I_C = 150\text{ mA}$	h_{FE}	100	300	-
at $V_{CE} = 10\text{ V}$, $I_C = 500\text{ mA}$	h_{FE}	30	-	-
	2N2222			
	2N2222A			
Collector Base Cutoff Current				
at $V_{CB} = 50\text{ V}$	I_{CBO}	-	10	nA
at $V_{CB} = 60\text{ V}$		-	10	
Collector Base Breakdown Voltage				
at $I_C = 10\text{ }\mu\text{A}$	$V_{(BR)CBO}$	60	-	V
		75	-	
Collector Emitter Breakdown Voltage				
at $I_C = 10\text{ mA}$	$V_{(BR)CEO}$	30	-	V
		40	-	
Emitter Base Breakdown Voltage				
at $I_E = 10\text{ }\mu\text{A}$	$V_{(BR)EBO}$	5	-	V
		6	-	
Collector Emitter Saturation Voltage				
at $I_C = 150\text{ mA}$, $I_B = 15\text{ mA}$	$V_{CE(sat)}$	-	0.4	V
		-	0.3	
at $I_C = 500\text{ mA}$, $I_B = 50\text{ mA}$		-	1.6	
		-	1	
Base Emitter Saturation Voltage				
at $I_C = 150\text{ mA}$, $I_B = 15\text{ mA}$	$V_{BE(sat)}$	-	1.3	V
		0.6	1.2	
at $I_C = 500\text{ mA}$, $I_B = 50\text{ mA}$		-	2.6	
		-	2	
Gain Bandwidth Product				
at $I_C = 20\text{ mA}$, $V_{CE} = 20\text{ V}$, $f = 100\text{ MHz}$	f_T	250	-	MHz
Collector Output Capacitance				
at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	8	pF



Electrical Characteristics Curves

Fig.1 Power Derating Curve

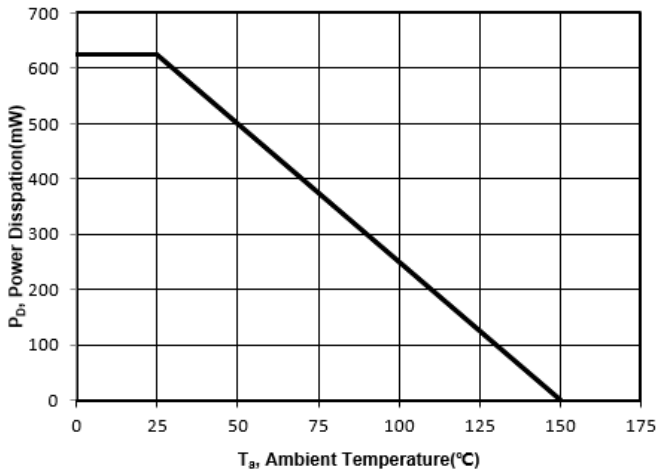


Fig.2 Output Characteristics Curve

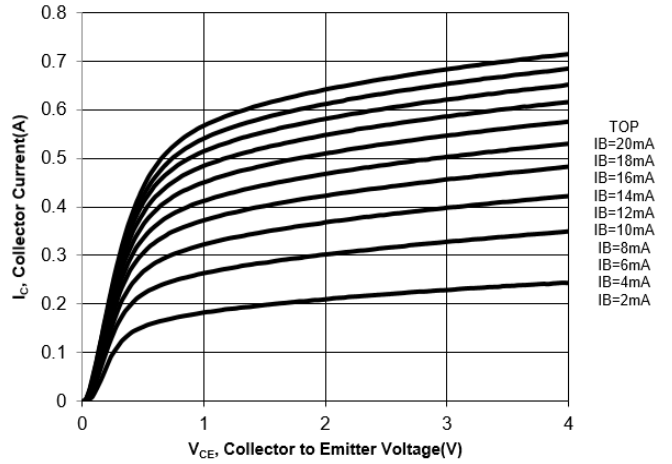


Fig. 3 Base to Emitter Voltage vs. Collector Current

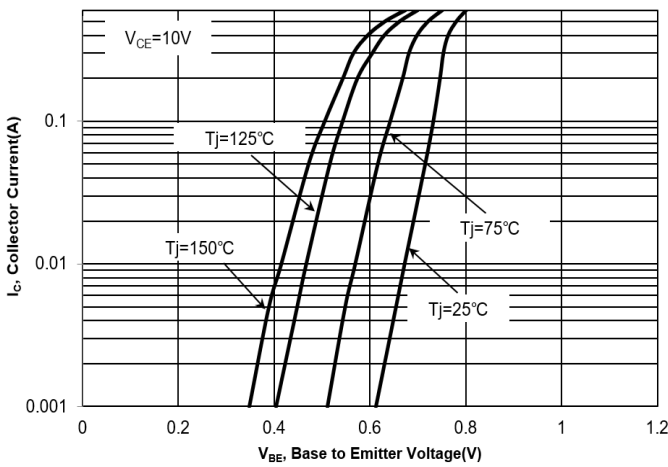
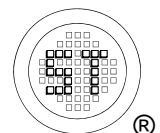
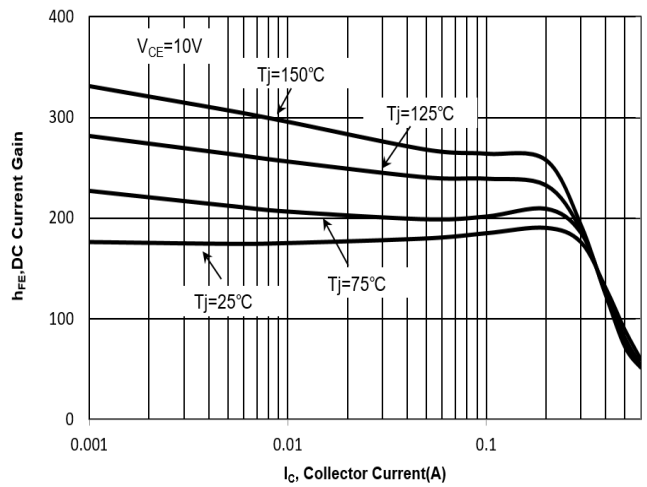


Fig. 4 $h_{FE,DC}$ Current Gain vs. Collector Current



Electrical Characteristics Curves

Fig. 5 $V_{BE(SAT)}$ vs. Collector Current

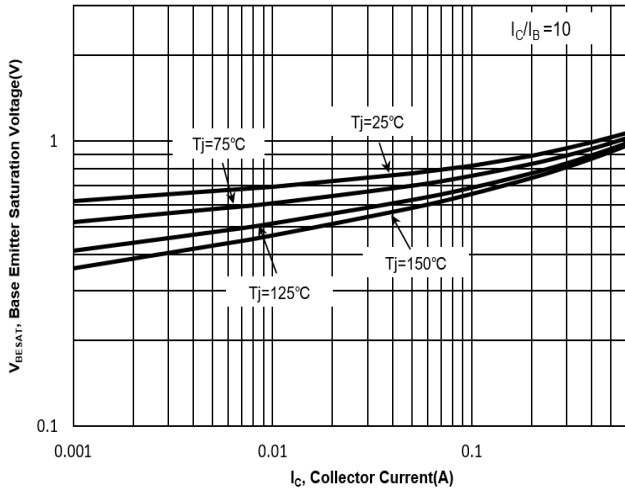


Fig. 6 $V_{CE(SAT)}$ vs. Collector Current

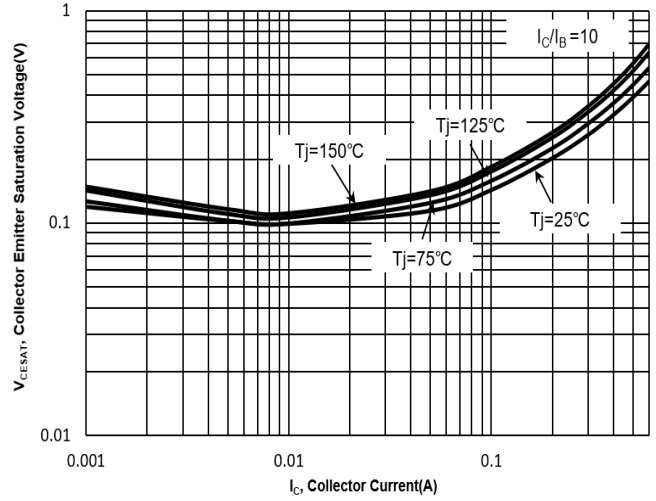
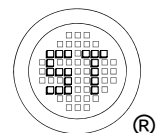
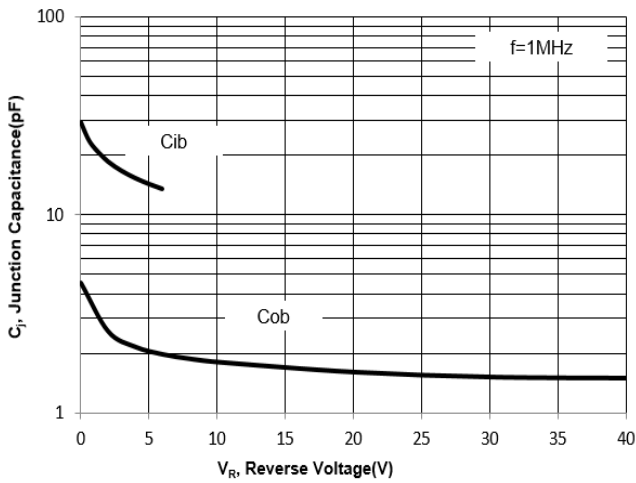
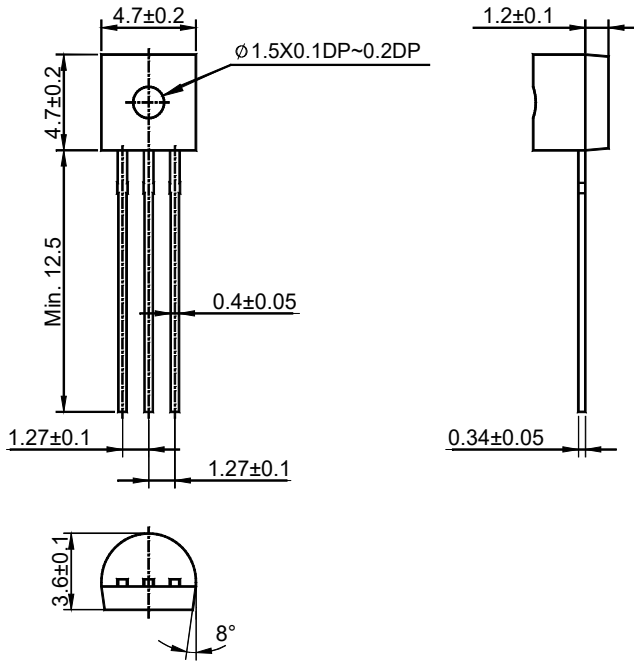


Fig. 7 Junction Capacitance

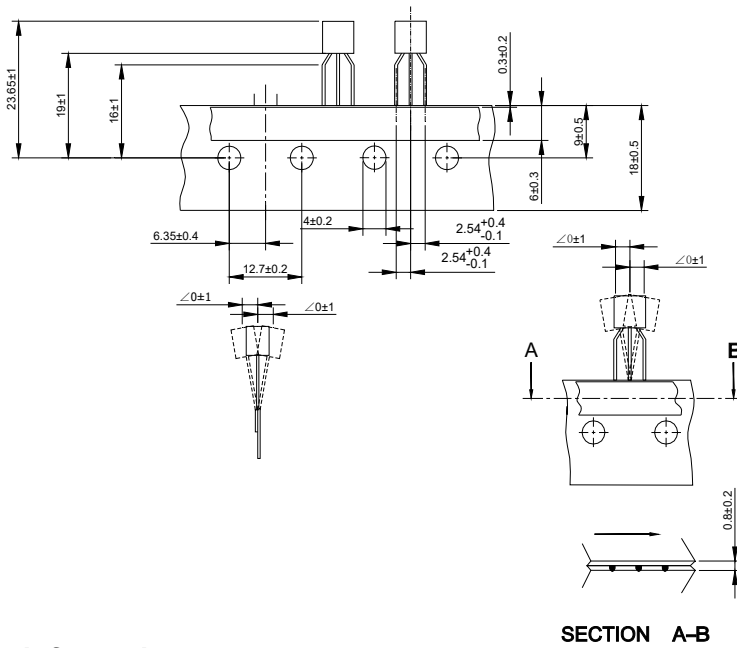


2N2222 / 2N2222A

TO-92 Package Outline (Dimensions in millimeters)



TO-92 Ammo-Pack Outline (Dimensions in millimeters)



SECTION A-B

Packing information

Package	Bulk Packing			Ammo-Packing	
	Per Bag Qty	Per Box Qty	Per Carton Qty	Per Box Qty	Per Carton Qty
TO-92	1,000	5,000	50,000	4,000	20,000

