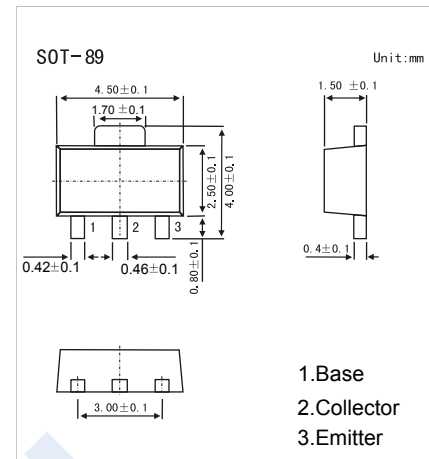


## PNP Transistors

## 2SA1418

## ■ Features

- Adoption of FBET, MBIT Processes
- High Breakdown Voltage and Large Current Capacity
- Fast Switching Speed
- Complementary to 2SC3648

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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CB0}$	-180	V
Collector - Emitter Voltage	$V_{CE0}$	-160	
Emitter - Base Voltage	$V_{EB0}$	-6	
Collector Current - Continuous	$I_C$	-0.7	A
Collector Current - Pulsed	$I_{CP}$	-1.5	
Collector Power Dissipation	$P_C$	500	mW
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature range	$T_{stg}$	-55 to 150	

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

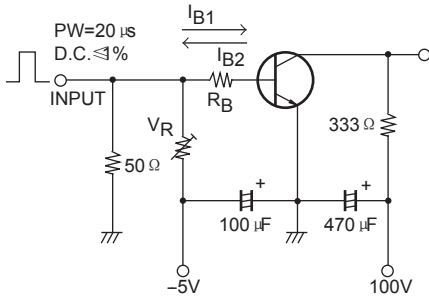
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	$V_{CB0}$	$I_C = -100 \mu\text{A}$ , $I_E = 0$	-180			V
Collector- emitter breakdown voltage	$V_{CE0}$	$I_C = -1 \text{ mA}$ , $R_{BE} = \infty$	-160			
Emitter - base breakdown voltage	$V_{EB0}$	$I_E = -100 \mu\text{A}$ , $I_C = 0$	-6			
Collector-base cut-off current	$I_{CBO}$	$V_{CB} = -120 \text{ V}$ , $I_E = 0$			-0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -4 \text{ V}$ , $I_C = 0$			-0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -250 \text{ mA}$ , $I_B = -25 \text{ mA}$		-0.2	-0.5	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = -250 \text{ mA}$ , $I_B = -25 \text{ mA}$		-0.85	-1.2	
DC current gain	$h_{FE}$	$V_{CE} = -5 \text{ V}$ , $I_C = -100 \text{ mA}$	100		400	
Turn-on time	$t_{on}$	See Test Circuit.		60		ns
Storage time	$t_s$			900		
Fall time	$t_f$			60		
Output capacitance	$C_{ob}$	$V_{CB} = -10 \text{ V}$ , $I_E = 0$ , $f = 1 \text{ MHz}$		11		pF
Transition frequency	$f_T$	$V_{CE} = -10 \text{ V}$ , $I_E = -50 \text{ mA}$		120		MHz

■ Classification of  $h_{FE}$ 

Type	2SA1418-R	2SA1418-S	2SA1418-T
Range	100-200	140-280	200-400
Marking	ADR*	ADS*	ADT*

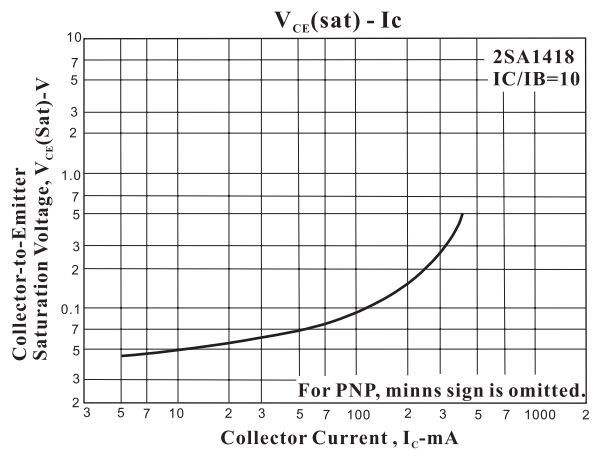
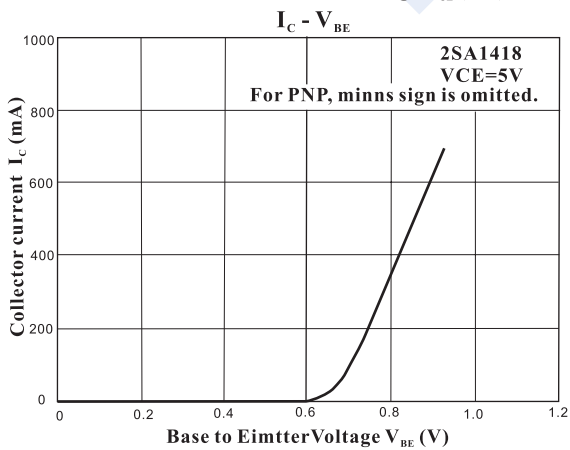
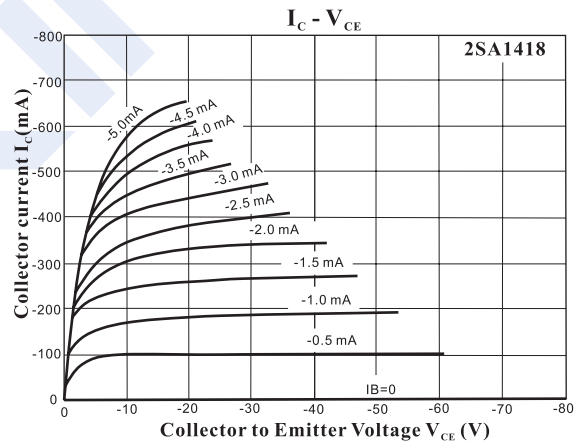
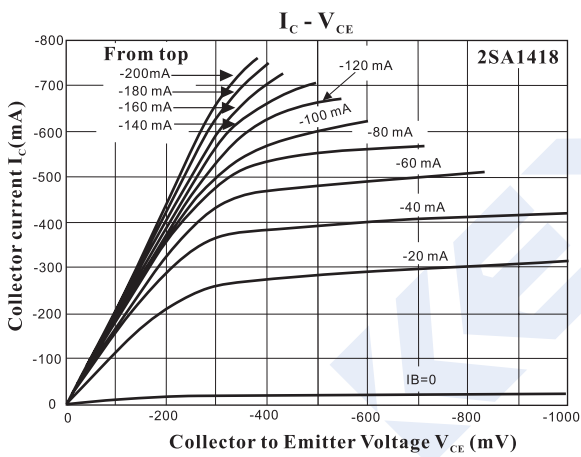
## PNP Transistors 2SA1418

■ Test Circuit



$I_C = 20I_{B1} = -20I_{B2} = 300\text{mA}$   
(For PNP, the polarity is reversed)

■ Typical Characteristics



# PNP Transistors

## 2SA1418

### Typical Characteristics

