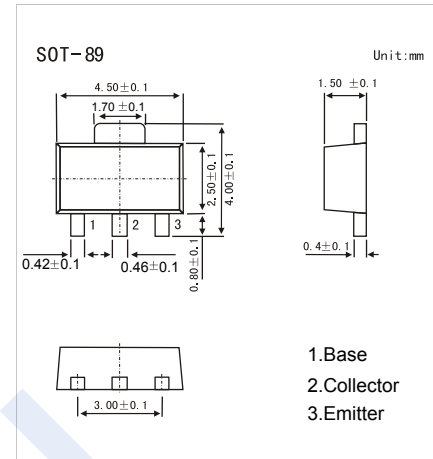


## PNP Transistors

### 2SB1115-HF

#### ■ Features

- Low  $V_{CE(sat)}$   $V_{CE(sat)} = -0.2V$  at 1A
- Complementary to 2SD1615-HF
- Pb-Free Package May be Available. The G-Suffix Denotes a Pb-Free Lead Finish



#### ■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CBO}$	-60	V
Collector - Emitter Voltage	$V_{CEO}$	-50	
Emitter - Base Voltage	$V_{EBO}$	-6	
Collector Current - Continuous	$I_C$	-1	A
Collector current -Pulse (Note.1)	$I_{CP}$	-2	
Collector Power Dissipation	$P_C$	2	W
Junction Temperature	$T_J$	150	$^\circ C$
Storage Temperature range	$T_{stg}$	-55 to 150	

Note.1:  $PW \leq 10ms$ , Duty Cycle  $\leq 50\%$

#### ■ Electrical Characteristics $T_a = 25^\circ C$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	$V_{CBO}$	$I_C = -100 \mu A$ , $I_E = 0$	-60			V
Collector- emitter breakdown voltage	$V_{CEO}$	$I_C = -1 mA$ , $I_B = 0$	-50			
Emitter - base breakdown voltage	$V_{EBO}$	$I_E = -100 \mu A$ , $I_C = 0$	-6			
Collector-base cut-off current	$I_{CBO}$	$V_{CB} = -60V$ , $I_E = 0$			-0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -6V$ , $I_C = 0$			-0.1	
Collector-emitter saturation voltage (Note.1)	$V_{CE(sat)}$	$I_C = -1 A$ , $I_B = -50mA$		-0.2	-0.3	V
Base - emitter saturation voltage (Note.1)	$V_{BE(sat)}$	$I_C = -1 A$ , $I_B = -50mA$		-0.9	-1.2	
Base - emitter voltage (Note.1)	$V_{BE}$	$V_{CE} = -2V$ , $I_C = -50 mA$	-0.6		-0.7	
DC current gain (Note.1)	$h_{FE}$	$V_{CE} = -2V$ , $I_C = -100 mA$	135	340	600	
		$V_{CE} = -2V$ , $I_C = -1 A$	100	200		
Collector output capacitance	$C_{ob}$	$V_{CB} = -10V$ , $I_E = 0$ , $f = 1MHz$		25		$\mu F$
Transition frequency	$f_T$	$V_{CE} = -2V$ , $I_C = -100mA$	80	120		MHz

Note.1: Pulse:  $PW \leq 350\mu s$ , Duty Cycle  $\leq 2\%$

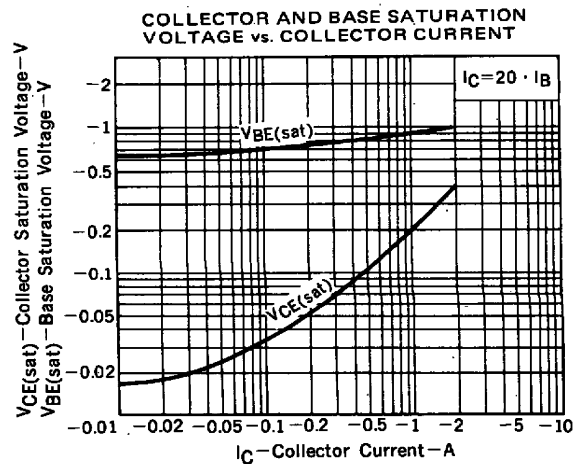
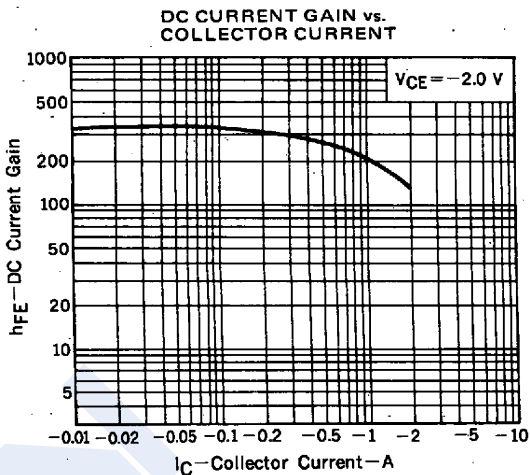
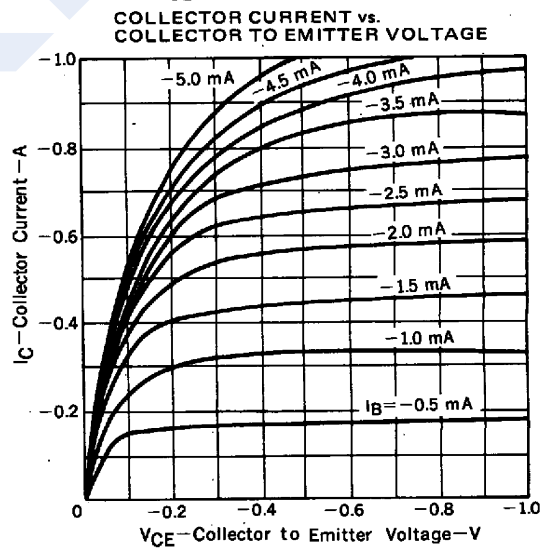
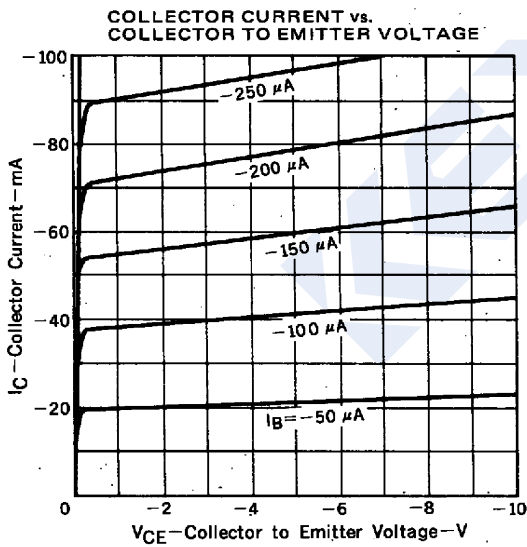
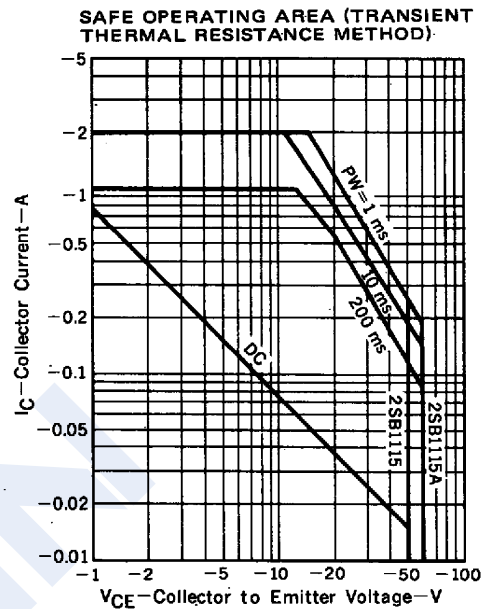
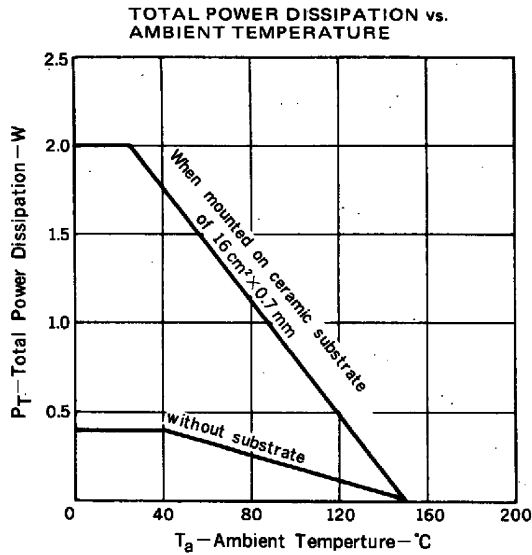
#### ■ Classification of $h_{FE}(1)$

Type	2SB1115-M-HF	2SB1115-L-HF	2SB1115-K-HF
Range	135-270	200-400	300-600
Marking	YM <sub>F</sub>	YL <sub>F</sub>	YK <sub>F</sub>

# PNP Transistors

## 2SB1115-HF

■ Typical Characteristics



### PNP Transistors

### 2SB1115-HF

■ Typical Characteristics

