

NEC

SILICON TRANSISTORS

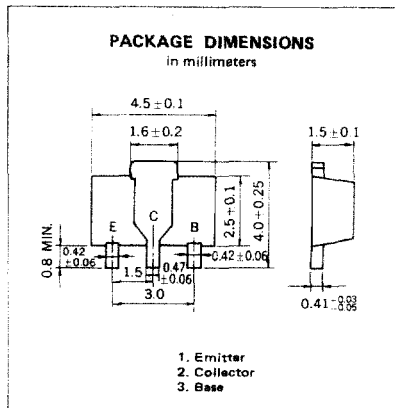
2SB1115, 2SB1115A

PNP SILICON EPITAXIAL TRANSISTOR

POWER MINI MOLD

DESCRIPTION

2SB1115, 2SB1115A are designed for audio frequency power amplifier and switching application, especially in Hybrid Integrated Circuits.

**FEATURES**

- World Standard Miniature Package
- Low $V_{CE(sat)}$. $V_{CE(sat)} = -0.2$ V at 1 A
- Complement to 2SD1615, 2SD1615A

ABSOLUTE MAXIMUM RATINGS

Maximum Voltages and Currents ($T_a = 25^\circ\text{C}$)

	2SB1115	2SB1115A		
Collector to Base Voltage	V_{CBO}	-60	-80	V
Collector to Emitter Voltage	V_{CEO}	-50	-60	V
Emitter to Base Voltage	V_{EBO}		-6	V
Collector Current (DC)	I_C		-1	A
Collector Current (Pulse)*	I_C		-2	A
Maximum Power Dissipation				
Total Power Dissipation at 25 °C Ambient Temperature**	P_T		2.0	W
Maximum Temperatures				
Junction Temperature	T_{jg}		150	°C
Storage Temperature Range	T_{stg}		-55 to +150	°C

*PW \leq 10 ms, Duty Cycle \leq 50 %

**When mounted on ceramic substrate of 16 cm² x 0.7 mm

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS	
Collector Cutoff Current	I_{CBO}			-100	nA	2SB1115	$V_{CB} = -60$ V, $I_E = 0$
				-100	nA	2SB1115A	$V_{CB} = -80$ V, $I_E = 0$
Emitter Cutoff Current	I_{EBO}			-100	nA	$V_{EB} = -6.0$ V, $I_C = 0$	
DC Current Gain	h_{FE1} ***	135	340	600		2SB1115	$V_{CE} = -2.0$ V, $I_C = -100$ mA
		135	340	400		2SB1115A	
DC Current Gain	h_{FE2} ***	100	200			$V_{CE} = -2.0$ V, $I_C = -1.0$ A	
Collector Saturation Voltage	$V_{CE(sat)}$ ***		-0.2	-0.3	V	$I_C = -1.0$ A, $I_B = -50$ mA	
Base Saturation Voltage	$V_{BE(sat)}$ ***		-0.9	-1.2	V	$I_C = -1.0$ A, $I_B = -50$ mA	
Base to Emitter Voltage	V_{BE} ***	-600		-700	mV	$V_{CE} = -2.0$ V, $I_C = -50$ mA	
Gain Bandwidth Product	f_T	80	120		MHz	$V_{CE} = -2.0$ V, $I_E = -100$ mA	
Output Capacitance	C_{ob}		25		pF	$V_{CB} = -10$ V, $I_E = 0$, $f = 1.0$ MHz	

***Pulsed: PW \leq 350 μ s, Duty Cycle \leq 2 %

 h_{FE} Classification

MARKING	2SB1115	YM	YL	YK
	2SB1115A	YQ	YP	
h_{FE}		135 to 270	200 to 400	300 to 600

TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

