

To our customers,

Old Company Name in Catalogs and Other Documents

On April 1st, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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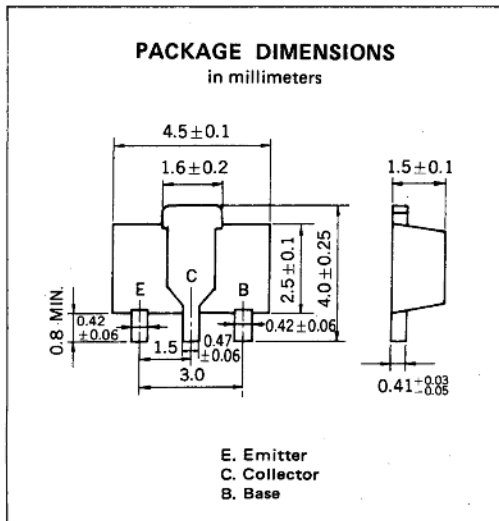
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PNP SILICON EPITAXIAL TRANSISTOR
POWER MINI MOLD

DESCRIPTION

2SB1115, 1115A are designed for audio frequency power amplifier and switching application, especially in Hybrid Integrated Circuits.



FEATURES

- Low $V_{CE(sat)}$. $V_{CE(sat)} = -0.2$ V at 1 A
- Complement to 2SD1615, 1615A

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$)

	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}	-6.0	V
Collector Current (DC)	$I_C(\text{DC})$	-1.0	A
Collector Current (Pulse)*	$I_C(\text{Pulse})$	-2.0	A
Total Power Dissipation**	P_T	2.0	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$

*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	
						2SB1115	2SB1115A
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		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 %

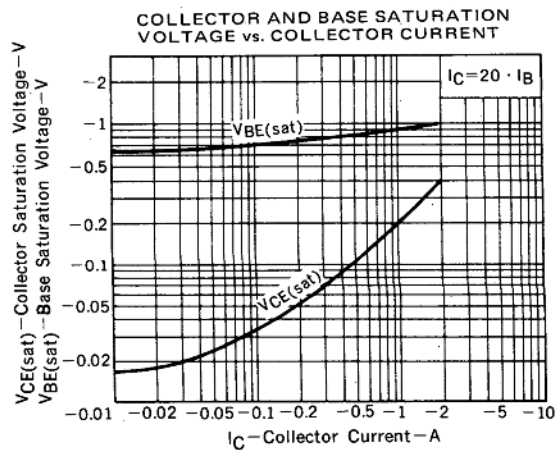
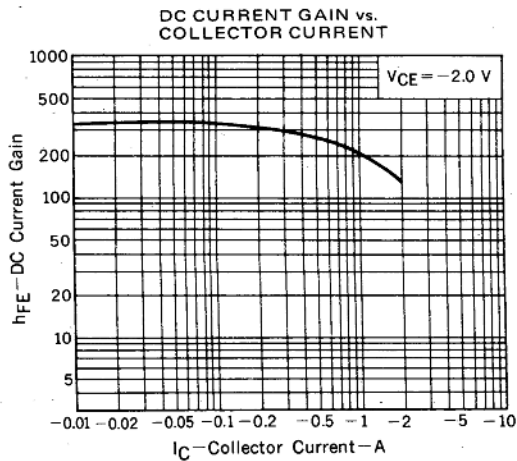
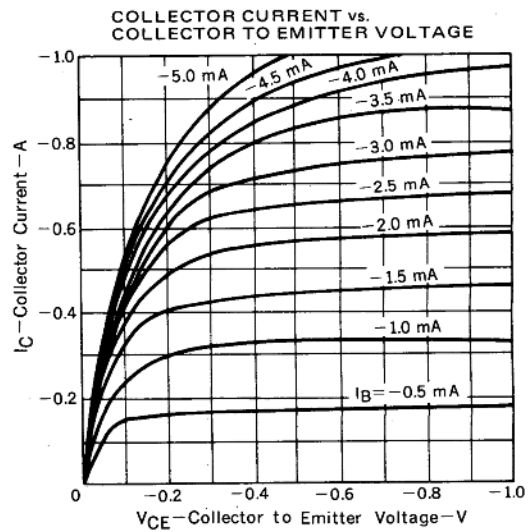
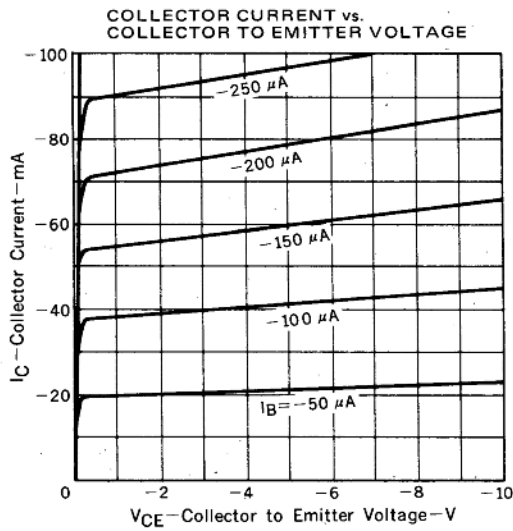
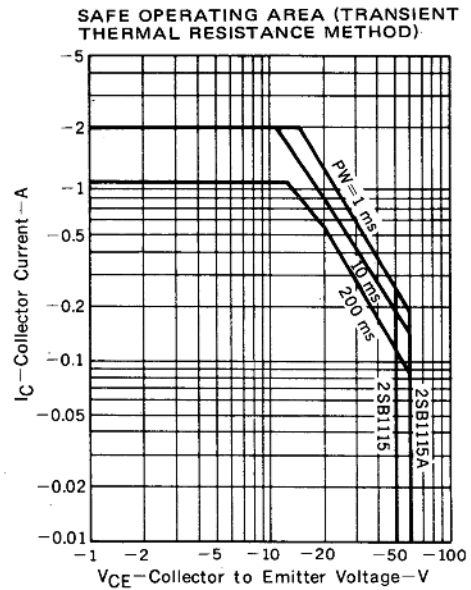
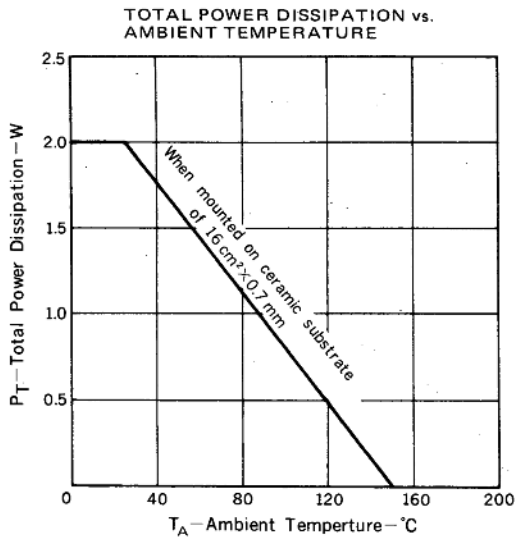
h_{FE} Classification

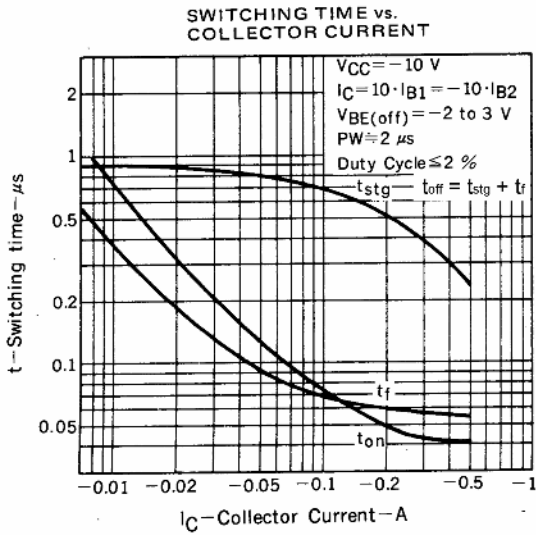
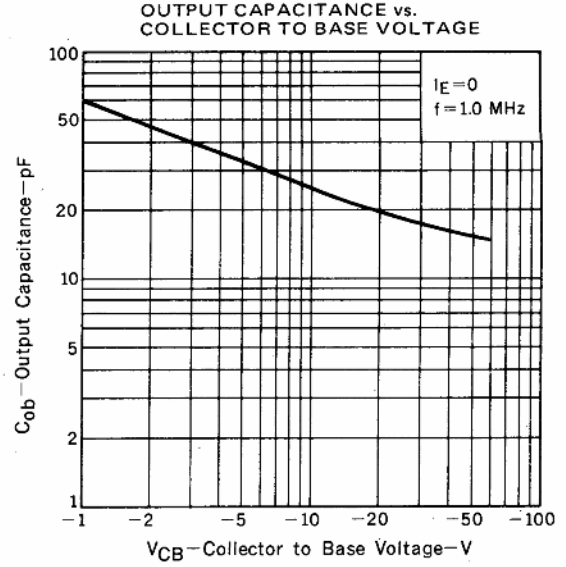
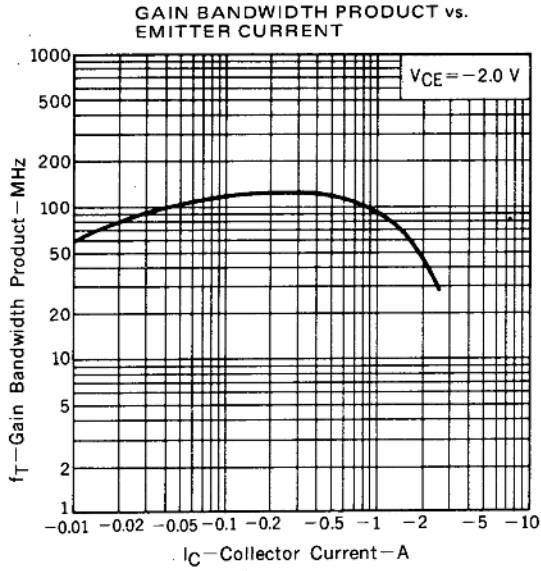
MARKING	2SB1115	YM	YL	YK
	2SB1115A	YQ	YP	
h_{FE1}		135 to 270	200 to 400	300 to 600

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