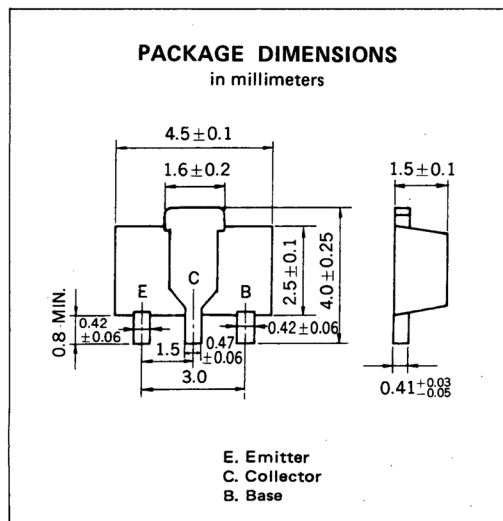


PNP SILICON EPITAXIAL TRANSISTOR
POWER MINI MOLD

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 %

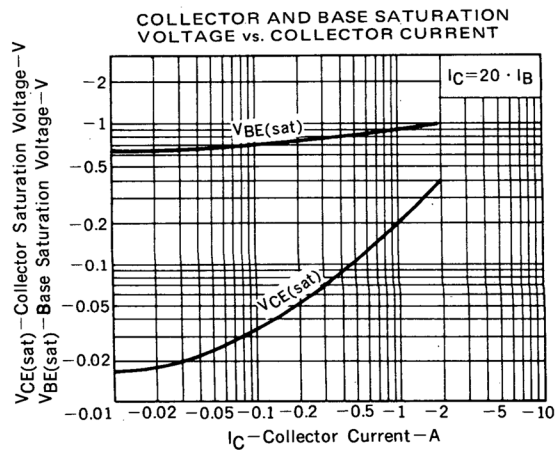
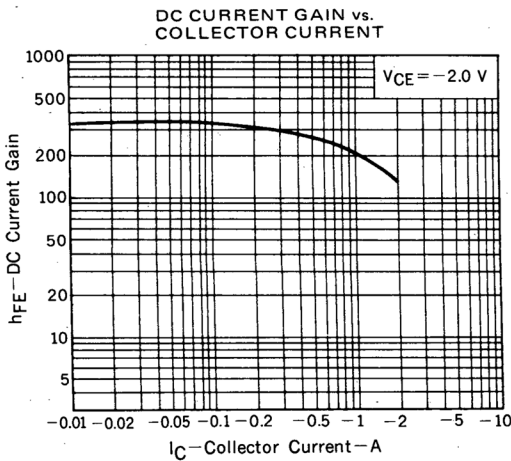
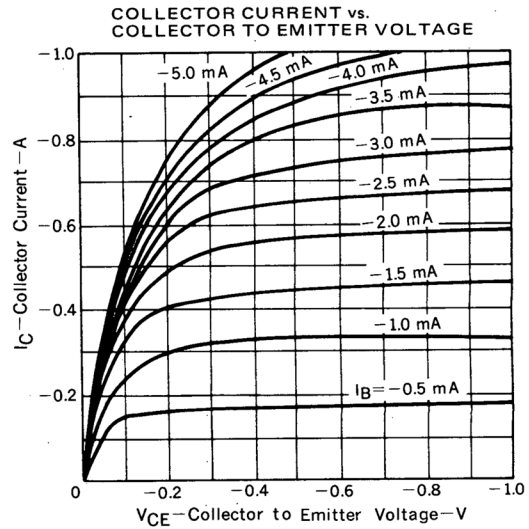
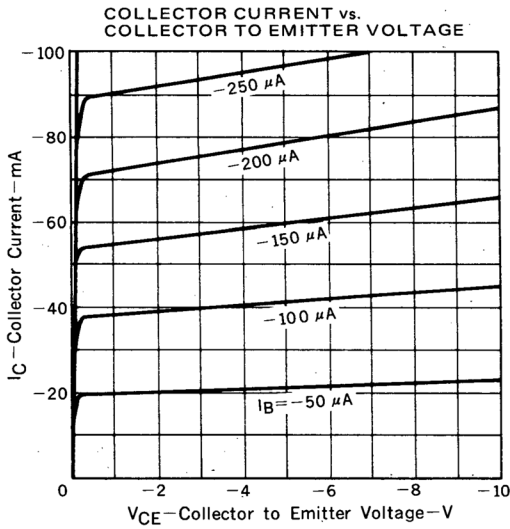
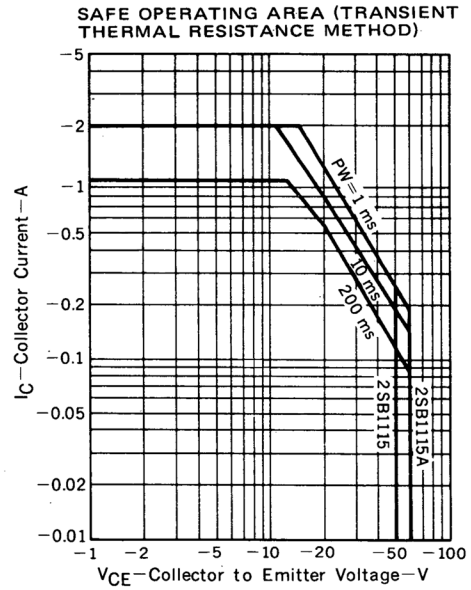
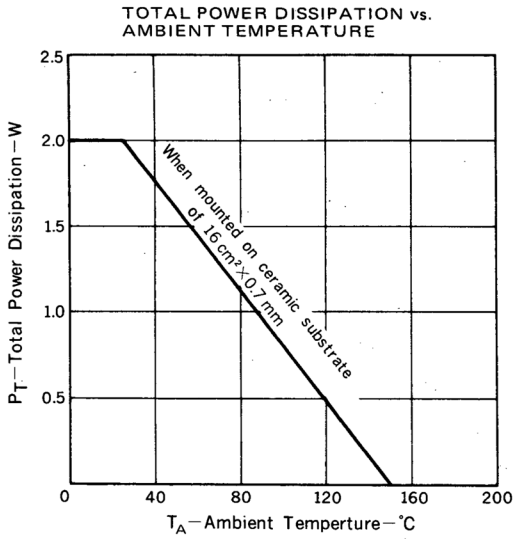
h_{FE} Classification

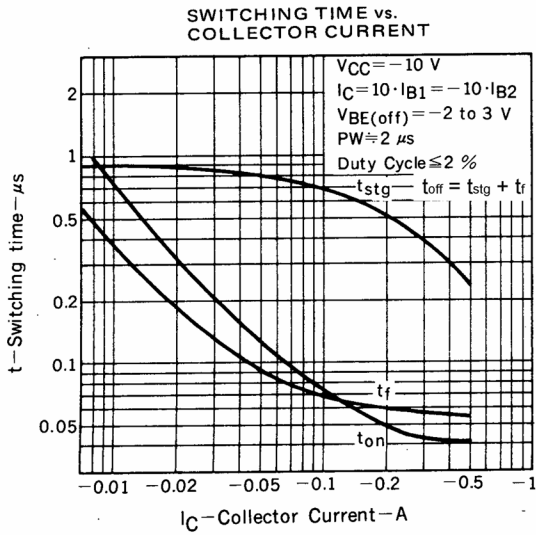
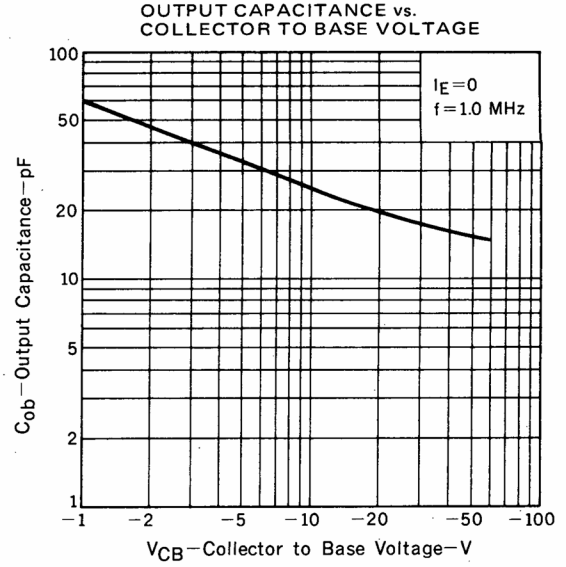
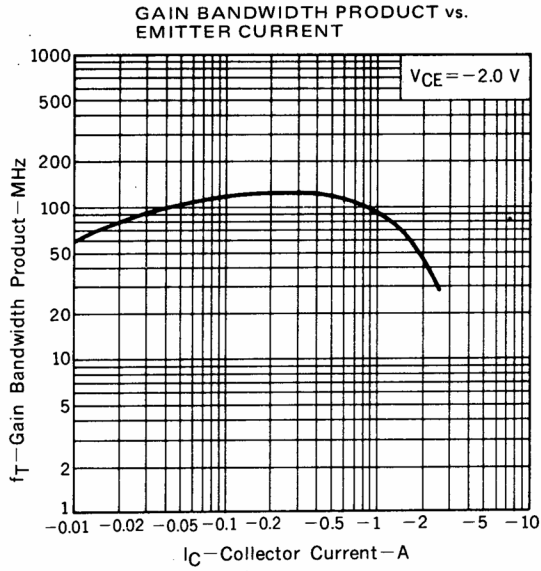
MARKING	2SB1115	YM	YL	YK
	2SB1115A	YQ	YP	
h_{FE1}		135 to 270	200 to 400	300 to 600

The information in this document is subject to change without notice. Before using this document, please confirm that this is the latest version.

Not all products and/or types are available in every country. Please check with an NEC Electronics sales representative for availability and additional information.

TYPICAL CHARACTERISTICS (T_A = 25°C)





• **The information in this document is current as of February, 2006. The information is subject to change without notice. For actual design-in, refer to the latest publications of NEC Electronics data sheets or data books, etc., for the most up-to-date specifications of NEC Electronics products. Not all products and/or types are available in every country. Please check with an NEC Electronics sales representative for availability and additional information.**

• No part of this document may be copied or reproduced in any form or by any means without the prior written consent of NEC Electronics. NEC Electronics assumes no responsibility for any errors that may appear in this document.

• NEC Electronics does not assume any liability for infringement of patents, copyrights or other intellectual property rights of third parties by or arising from the use of NEC Electronics products listed in this document or any other liability arising from the use of such products. No license, express, implied or otherwise, is granted under any patents, copyrights or other intellectual property rights of NEC Electronics or others.

• Descriptions of circuits, software and other related information in this document are provided for illustrative purposes in semiconductor product operation and application examples. The incorporation of these circuits, software and information in the design of a customer's equipment shall be done under the full responsibility of the customer. NEC Electronics assumes no responsibility for any losses incurred by customers or third parties arising from the use of these circuits, software and information.

• While NEC Electronics endeavors to enhance the quality, reliability and safety of NEC Electronics products, customers agree and acknowledge that the possibility of defects thereof cannot be eliminated entirely. To minimize risks of damage to property or injury (including death) to persons arising from defects in NEC Electronics products, customers must incorporate sufficient safety measures in their design, such as redundancy, fire-containment and anti-failure features.

• NEC Electronics products are classified into the following three quality grades: "Standard", "Special" and "Specific".

The "Specific" quality grade applies only to NEC Electronics products developed based on a customer-designated "quality assurance program" for a specific application. The recommended applications of an NEC Electronics product depend on its quality grade, as indicated below. Customers must check the quality grade of each NEC Electronics product before using it in a particular application.

"Standard": Computers, office equipment, communications equipment, test and measurement equipment, audio and visual equipment, home electronic appliances, machine tools, personal electronic equipment and industrial robots.

"Special": Transportation equipment (automobiles, trains, ships, etc.), traffic control systems, anti-disaster systems, anti-crime systems, safety equipment and medical equipment (not specifically designed for life support).

"Specific": Aircraft, aerospace equipment, submersible repeaters, nuclear reactor control systems, life support systems and medical equipment for life support, etc.

The quality grade of NEC Electronics products is "Standard" unless otherwise expressly specified in NEC Electronics data sheets or data books, etc. If customers wish to use NEC Electronics products in applications not intended by NEC Electronics, they must contact an NEC Electronics sales representative in advance to determine NEC Electronics' willingness to support a given application.

(Note)

(1) "NEC Electronics" as used in this statement means NEC Electronics Corporation and also includes its majority-owned subsidiaries.

(2) "NEC Electronics products" means any product developed or manufactured by or for NEC Electronics (as defined above).