DATA SHEET

SILICON TRANSISTORS 2SB1116, 1116A

PNP SILICON EPITAXIAL TRANSISTOR FOR LOW-FREQUENCY POWER AMPLIFIERS AND MID-SPEED SWITCHING

FEATURES

NEC

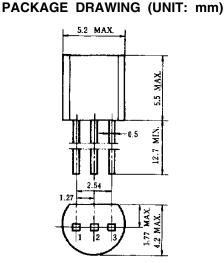
- Low VCE(sat) VCE(sat) = -0.20 V TYP. (Ic = -1.0 A, IB = -50 mA)
- High P_T in small dimension with general-purpose $P_T = 0.75$ W, $V_{CEO} = -50/-60$ V, $I_{C(DC)} = -1.0$ A
- Complementary transistor with 2SD1616 and 1616A

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Parameter	Symbol	Ratings		Unit
Parameter		2SB1116	2SB1116A	Unit
Collector to base voltage	Vсво	-60	-80	V
Collector to emitter voltage	VCEO	-50	-60	V
Emitter to base voltage	Vebo	-6.0		V
Collector current (DC)	IC(DC)	-1.0		А
Collector current (pulse)	IC(pulse)*	-2.0		А
Total power dissipation	Р⊤	0.75		W
Junction temperature	Tj	150		°C
Storage temperature	Tstg	–55 to +150		°C

* PW \leq 10 ms, duty cycle \leq 50%

ELECTRICAL CHARACTERISTICS (Ta = 25°C)



Electrode Connection

1. Emitter EIAJ : SC-43B 2. Collector JEDEC : TO-92 3. Base IEC : PA33 2SB1116, 1116A

Conditions MIN. TYP. MAX. Unit Parameter Symbol $V_{\text{CB}} = -60 \text{ V}, \text{ Ie} = 0$ -100 Collector cutoff current Ісво nA Emitter cutoff current $V_{EB} = -6.0 \text{ V}, \text{ Ic} = 0$ -100 nA **EBO** DC current gain hfe1 ** $V_{CE} = -2.0 V$, $I_{C} = -100 mA$ 135 600/400 hfe2 ** $V_{CE} = -2.0 \text{ V}, \text{ Ic} = -1.0 \text{ A}$ DC current gain 81 -700 **V**BE ** $V_{CE} = -2.0 \text{ V}, \text{ Ic} = -50 \text{ mA}$ -600 -650 mV DC base voltage $I_{C} = -1.0 \text{ A}, I_{B} = -50 \text{ mA}$ -0.20 -0.3 Collector saturation voltage VCE(sat) ** ٧ $I_{C} = -1.0 \text{ A}, I_{B} = -50 \text{ mA}$ -1.2 V Base saturation voltage VBE(sat) ** -0.9 $V_{CB} = -10 \text{ V}, \text{ I}_{E} = 0, \text{ f} = 1.0 \text{ MHz}$ Output capacitance Cob 25 pF $V_{CE} = -2.0 \text{ V}, \text{ Ic} = -100 \text{ mA}$ Gain bandwidth product 70 120 f⊤ MHz $V_{CC} = -10 \text{ V}, \text{ Ic} = -100 \text{ mA}$ 0.07 Turn-on time ton μs Storage temperature $I_{B1} = -I_{B2} = -10 \text{ mA},$ 0.70 tstg μs $V_{BE(off)} = 2 \text{ to } 3 \text{ V}$ 0.07 Fall time tf μs

** Pulse test PW \leq 350 μ s, duty cycle \leq 2%

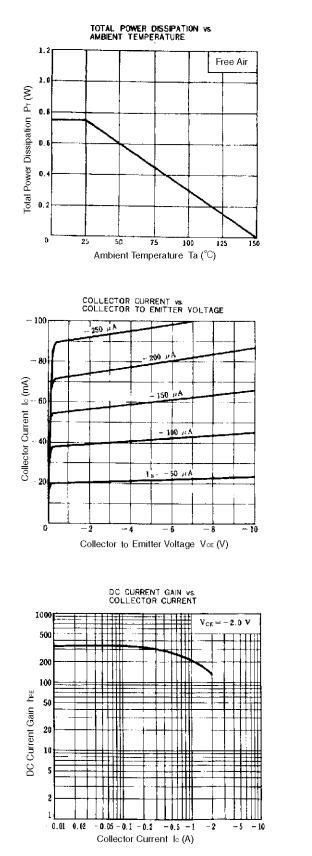
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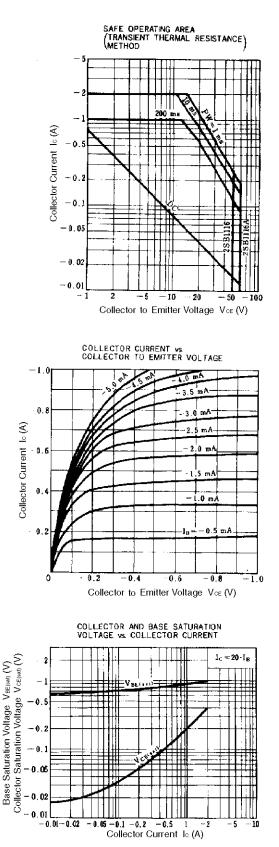
hfe CLASSIFICATION

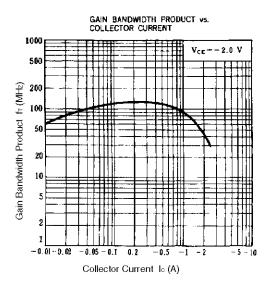
(The U rank is not available for the 2SB1116A.)

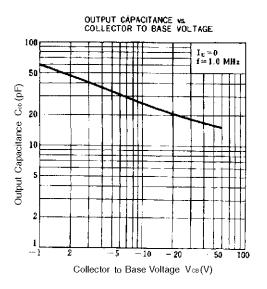
Marking	L	К	U
hfe1	135 to 270	200 to 400	300 to 600

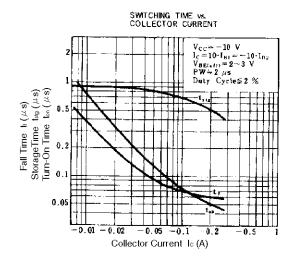
TYPICAL CHARACTERISTICS (Ta = 25°C)











[MEMO]

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