Elektronische Bauelemente

2SB1116A

-1 A, -80 V

PNP Plastic Encapsulated Transistor

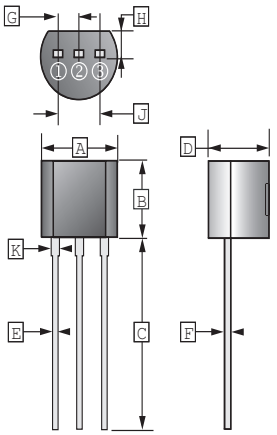
RoHS Compliant Product

A suffix of "-C" specifies halogen & lead-free

FEATURES

- High Collector Power Dissipation
- Complementary to 2SD1616A

TO-92

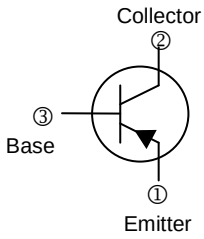


①Emitter
②Collector
③Base

REF.	Millimeter	
	Min.	Max.
A	4.40	4.70
B	4.30	4.70
C	12.70	-
D	3.30	3.81
E	0.36	0.56
F	0.36	0.51
G	1.27 TYP.	
H	1.10	-
J	2.42	2.66
K	0.36	0.76

CLASSIFICATION OF $h_{FE(1)}$

Product-Rank	2SB1116A-L	2SB1116A-K	2SB1116A-U
Range	135~270	200~400	300~600



ABSOLUTE MAXIMUM RATINGS (T_A = 25℃ unless otherwise specified)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	-80	V
Collector to Emitter Voltage	V_{CEO}	-60	V
Emitter to Base Voltage	V_{EBO}	-6	V
Collector Current - Continuous	I_C	-1	A
Collector Power Dissipation	P_C	0.75	W
Junction, Storage Temperature	T_J, T_{STG}	150, -55~150	℃

ELECTRICAL CHARACTERISTICS (T_A = 25℃ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	-80	-	-	V	I_C= -100μA, I_E=0
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	-60	-	-	V	I_C= -1mA, I_B=0
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	-6	-	-	V	I_E= -100μA, I_C=0
Collector Cut-Off Current	I_{CBO}	-	-	-0.1	μA	V_{CB}= -80V, I_E=0
Emitter Cut-Off Current	I_{EBO}	-	-	-0.1	μA	V_{EB}= -6V, I_C=0
DC Current Gain	$h_{FE\ (1)}$	135	-	600		V_{CE}= -2V, I_C= -0.1A
	$h_{FE\ (2)}$	81	-	-		V_{CE}= -2V, I_C= -1A
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	-	-	-0.3	V	I_C= -1A, I_B= -50mA
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	-	-	-1.2	V	I_C= -1A, I_B= -50mA
Base to Emitter voltage	V_{BE}	-0.6	-	-0.7	V	V_{CE}= -2V, I_C= -0.05A
Collector-Base Capacitance	C_{cb}	-	25	-	pF	V_{CB}= -10V, I_E=0, f=1MHz
Transition Frequency	f_T	70	-	-	MHz	V_{CE}= -2V, I_C= -0.1A
Turn-on time	T_{ON}	-	0.07	-	us	V_{CC}= -10V, I_C= -0.1A, I_{B1}= -I_{B2}= -0.01A $V_{BE(off)}$ = 2 ~ 3V
Storage time	T_S	-	0.7	-		
Fall time	T_F	-	0.07	-		

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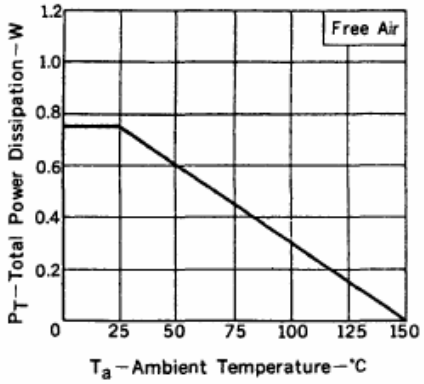
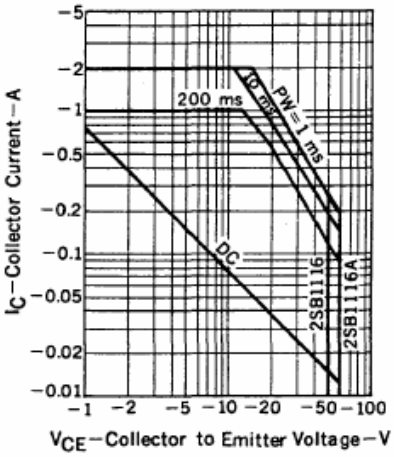
CHARACTERISTIC CURVES

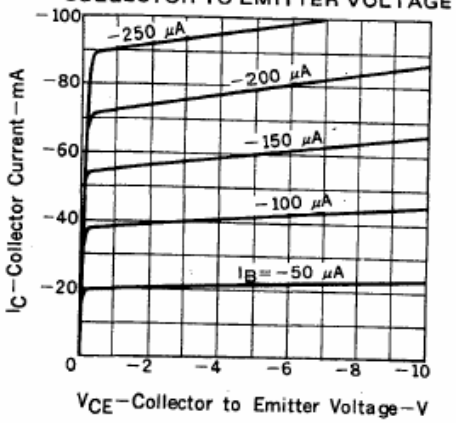
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



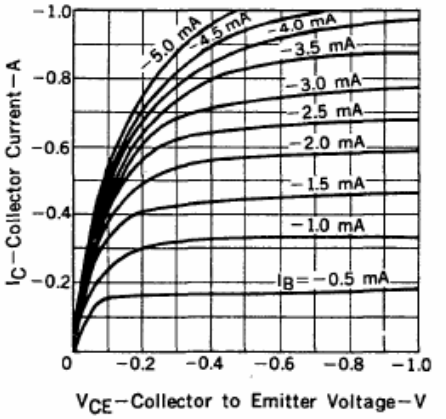
SAFE OPERATING AREAS (TRANSIENT THERMAL RESTRICTION METHOD)



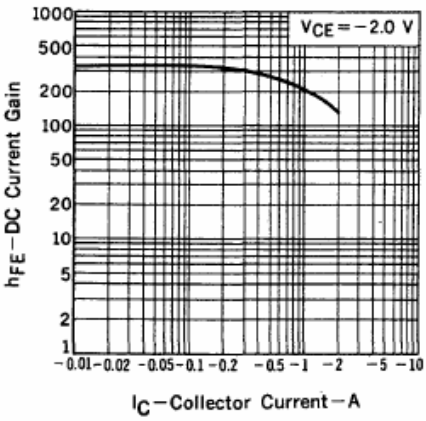
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



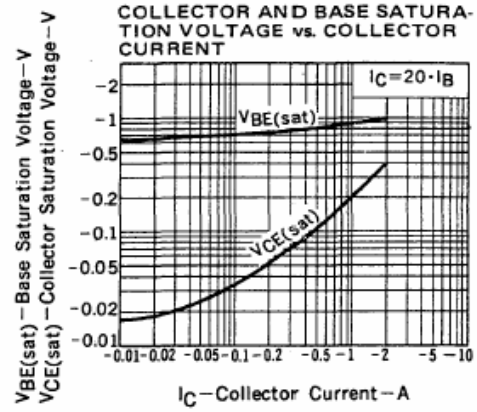
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



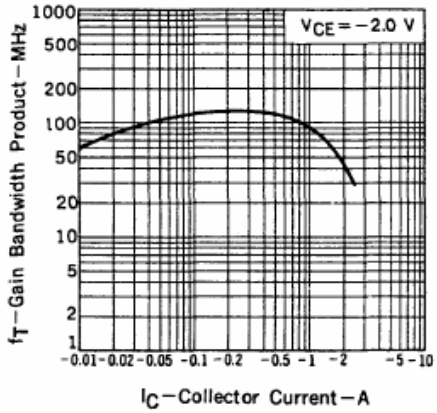
DC CURRENT GAIN vs. COLLECTOR CURRENT



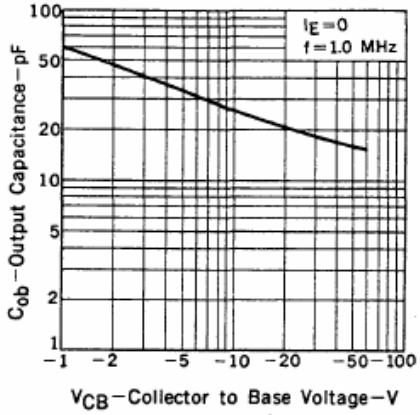
COLLECTOR AND BASE SATURATION VOLTAGE vs. COLLECTOR CURRENT



GAIN BANDWIDTH PRODUCT vs. EMITTER CURRENT



OUTPUT CAPACITANCE vs. COLLECTOR TO BASE VOLTAGE



SWITCHING TIME vs. COLLECTOR CURRENT