

RoHS Compliant Product

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

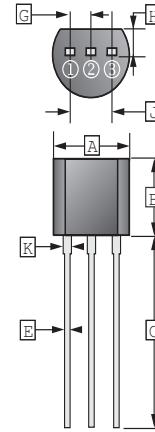
FEATURES

- High Collector Power Dissipation
- Complementary to 2SD1616A

CLASSIFICATION OF $h_{FE(1)}$

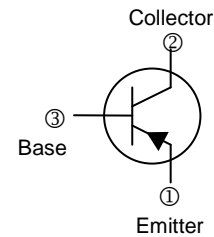
Product-Rank	2SB1116A-L	2SB1116A-K	2SB1116A-U
Range	135~270	200~400	300~600

TO-92



① Emitter
② Collector
③ Base

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



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

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CB0}	-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	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

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

CHARACTERISTIC CURVES

