



TO-92 Plastic-Encapsulate Transistors

2SB1116/1116A TRANSISTOR (PNP)

FEATURES

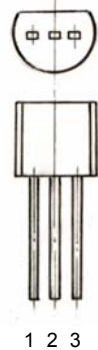
- High Collector Power Dissipation .
- Complementary to 2SD1616/2SD1616A

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage 2SB1116	-60	V
	2SB1116A	-80	
V_{CEO}	Collector-Emitter Voltage 2SB1116	-50	V
	2SB1116A	-60	
V_{EBO}	Emitter-Base Voltage	-6	V
I_{C}	Collector Current -Continuous	-1	A
P_{C}	Collector Power Dissipation	0.75	W
T_{j}	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$

TO-92

1. EMITTER
2. COLLECTOR
3. BASE



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

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	$I_{\text{C}}=-100\mu\text{A}, I_{\text{E}}=0$	2SB1116 2SB1116A	-60 -80		V
Collector-emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	$I_{\text{C}}=-1\text{mA}, I_{\text{B}}=0$	2SB1116 2SB1116A	-50 -60		V
Emitter-base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	$I_{\text{E}}=-100\mu\text{A}, I_{\text{C}}=0$	-6			V
Collector cut-off current	I_{CBO}	$V_{\text{CB}}=-60\text{V}, I_{\text{E}}=0$	2SB1116		-0.1	μA
		$V_{\text{CB}}=-80\text{V}, I_{\text{E}}=0$	2SB1116A			
Emitter cut-off current	I_{EBO}	$V_{\text{EB}}=-6\text{V}, I_{\text{C}}=0$			-0.1	μA
DC current gain	$h_{\text{FE}(1)}$	$V_{\text{CE}}=-2\text{V}, I_{\text{C}}=-0.1\text{A}$	135		600	
	$h_{\text{FE}(2)}$	$V_{\text{CE}}=-2\text{V}, I_{\text{C}}=-1\text{A}$	81			
Collector-emitter saturation voltage	$V_{\text{CE(sat)}}$	$I_{\text{C}}=-1\text{A}, I_{\text{B}}=-50\text{mA}$			-0.3	V
Base -emitter saturation voltage	$V_{\text{BE(sat)}}$	$I_{\text{C}}=-1\text{A}, I_{\text{B}}=-50\text{mA}$			-1.2	V
Base -emitter voltage	V_{BE}	$V_{\text{CE}}=-2\text{V}, I_{\text{C}}=-0.05\text{A}$	-0.6		-0.7	V
Transition frequency	f_{T}	$V_{\text{CE}}=-2\text{V}, I_{\text{C}}=-0.1\text{A}$	70			MHz
Collector output capacitance	C_{ob}	$V_{\text{CB}}=-10\text{V}, I_{\text{E}}=0, f=1\text{MHz}$		25		pF
Turn-on time	t_{on}	$V_{\text{CC}}=-10\text{V}, I_{\text{C}}=-0.1\text{A}, I_{\text{B}1}=-I_{\text{B}2}=-0.01\text{A},$ $V_{\text{BE(off)}}=2\text{to}3\text{V}$		0.07		us
Storage time	t_{s}			0.7		us
Fall time	t_{f}			0.07		us

CLASSIFICATION OF $h_{\text{FE}(1)}$

Rank	L	K	U
Range	135-270	200-400	300-600

Typical Characteristics

2SB1116/2SB1116A

