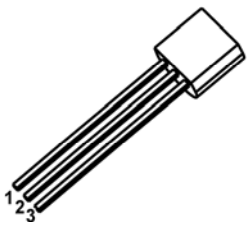
JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-92 Plastic-Encapsulate Transistors

2SB1116/1116A TRANSISTOR (PNP)

TO-92

1. EMITTER
2. COLLECTOR
3. BASE



FEATURES

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

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage 2SB1116 2SB1116A	-60 -80	V
V_{CEO}	Collector-Emitter Voltage 2SB1116 2SB1116A	-50 -60	V
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	℃
T_{stg}	Storage Temperature	-55-150	℃

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions		Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-100μA,I_E=0	2SB1116 2SB1116A	-60 -80			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-1mA,I_B=0	2SB1116 2SB1116A	-50 -60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-100μA,I_C=0		-6			V
Collector cut-off current	I_{CBO}	V_{CB}=-60V,I_E=0	2SB1116			-0.1	μA
		V_{CB}=-80V,I_E=0	2SB1116A				
Emitter cut-off current	I_{EBO}	V_{EB}=-6V,I_C=0				-0.1	μA
DC current gain	$h_{FE(1)}$	V_{CE}=-2V,I_C=-0.1A		135		600	
	$h_{FE(2)}$	V_{CE}=-2V,I_C=-1A		81			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-1A,I_B=-50mA				-0.3	V
Base -emitter saturation voltage	$V_{BE(sat)}$	I_C=-1A,I_B=-50mA				-1.2	V
Base -emitter voltage	V_{BE}	V_{CE}=-2V,I_C=-0.05A		-0.6		-0.7	V
Transition frequency	f_T	V_{CE}=-2V,I_C=-0.1A		70			MHz
Collector output capacitance	C_{ob}	V_{CB}=-10V,I_E=0,f=1MHz			25		pF
Turn-on time	t_{on}	V_{CC}=-10V,I_C=-0.1A,I_{B1}=-I_{B2}=-0.01A, $V_{BE(Off)}$=2to3V			0.07		us
Storage time	t_s				0.7		us
Fall time	t_f				0.07		us

CLASSIFICATION OF $h_{FE(1)}$

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

A,May,2011