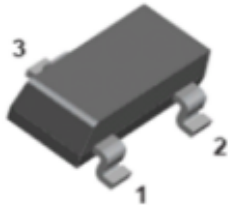
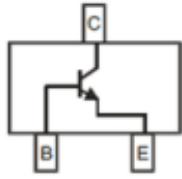


NPN Power Transistor



SOT-23

Features

- Epoxy meets UL-94 V-0 flammability rating
- Ultra low collector-emitter saturation voltage V_{CEsat}
- Very low collector-emitter saturation resistance

Mechanical Data

- **Package:** SOT-23
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** U8

■ Thermal Characteristics ($T_a=25^\circ\text{C}$ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Collector-Base Voltage	V_{CBO}	V	$I_C=100\mu\text{A}, I_E=0$	120
Collector-Emitter Voltage	V_{CEO}	V	$I_C=10\text{mA}, I_B=0$	100
Emitter-Base Voltage	V_{EBO}	V	$I_E=100\mu\text{A}, I_C=0$	5
Collector Current -Continuous	I_C	A		1
Peak Collector current	I_{CM}	A	single pulse, $t_p \leq 1\text{ms}$	3
Base current	I_B	A		0.3
Power dissipation	$P_D^{(1)}$	mW		300
Thermal resistance, junction-to-ambient	$R_{\theta J-A}^{(1)}$	$^\circ\text{C}/\text{W}$		417
Thermal resistance, junction-to-case	$R_{\theta J-C}^{(1)}$	$^\circ\text{C}/\text{W}$		333
Junction Temperature	T_j	$^\circ\text{C}$		-55 to +150
Storage Temperature	T_{STG}	$^\circ\text{C}$		-55 to +150

Note: (1) Device mounted on an FR4 Printed-Circuit Board (PCB), 35 μm single-sided copper, tin-plated and standard footprint

■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
YJBS8110T	F2	Approximate 0.008	3000	30000	120000	7" reel

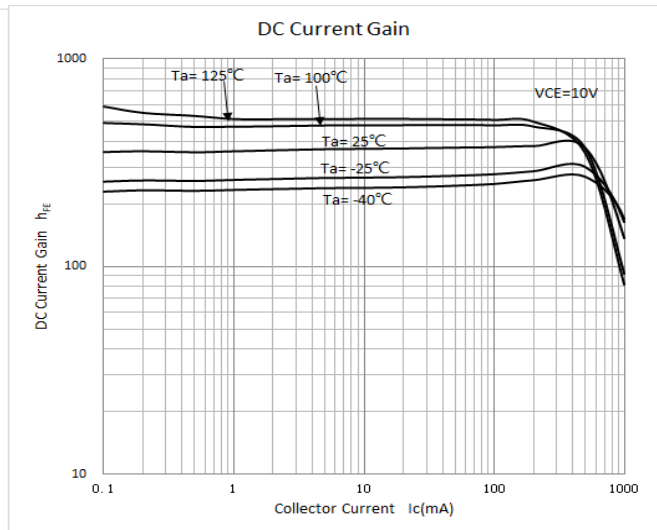
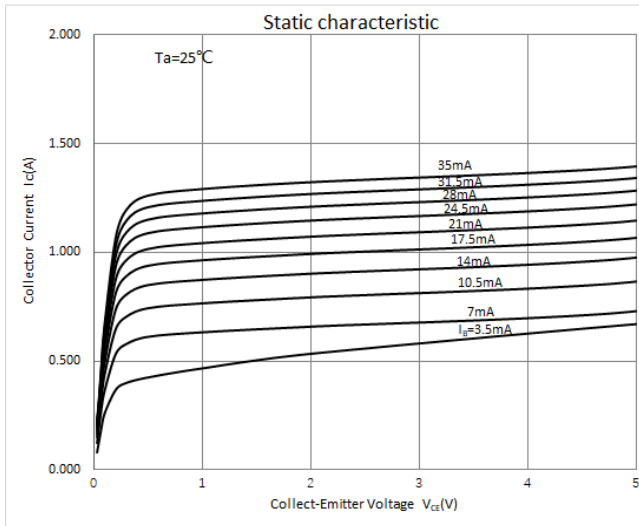


YJBS8110T

■ Electrical Characteristics (Ta=25°C unless otherwise noted)

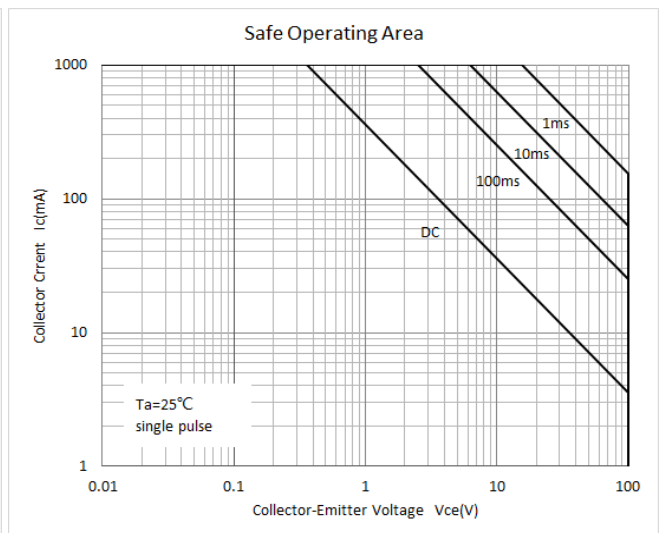
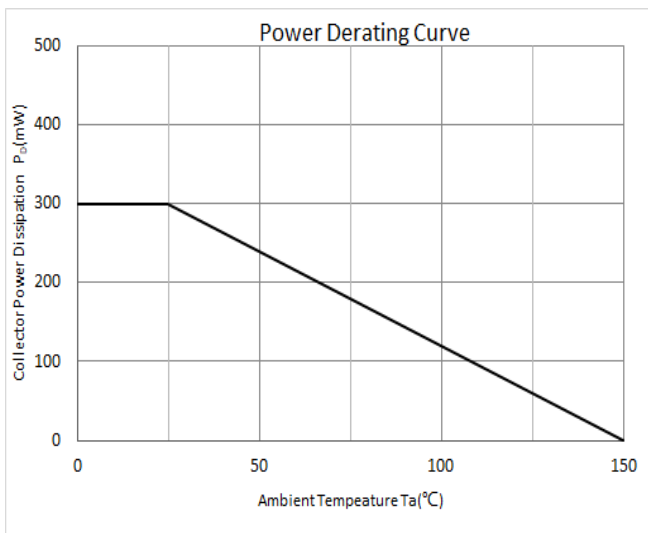
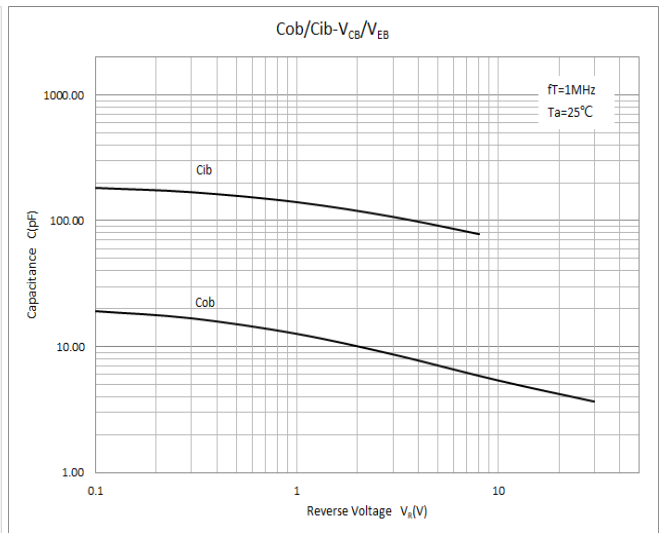
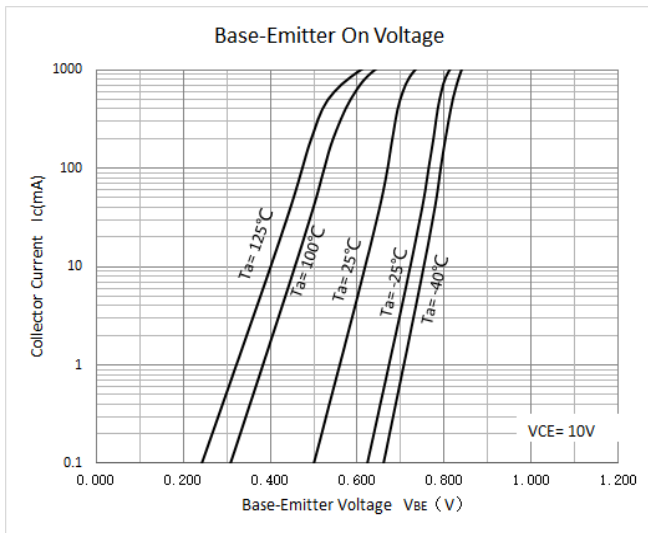
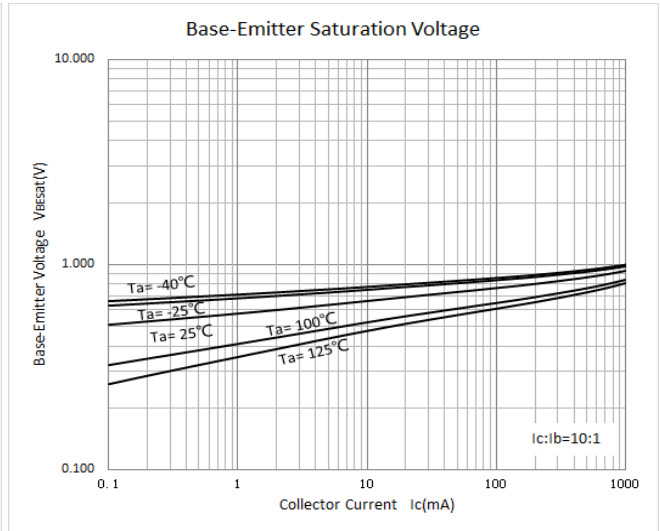
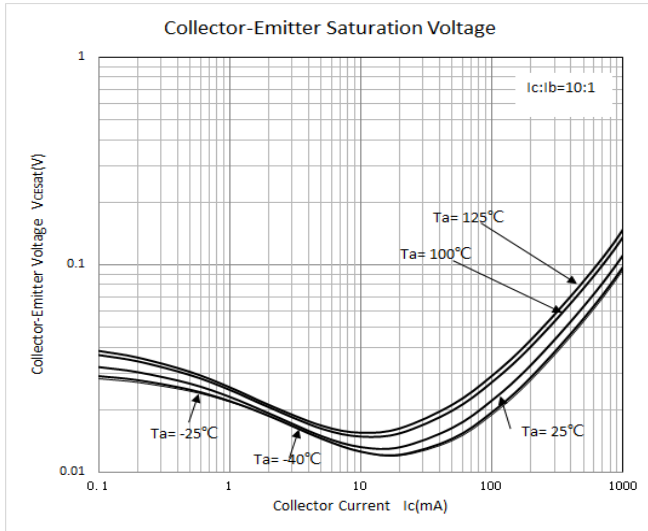
Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-base breakdown voltage	V_{CBO}	V	$I_C=100\mu A, I_E=0$	120		
Collector-emitter breakdown voltage	V_{CEO}	V	$I_C=10mA, I_B=0$	100		
Emitter-base breakdown voltage	V_{EBO}	V	$I_E=100\mu A, I_C=0$	5		
Collector-Base Cut-Off Current	I_{CBO}	nA	$V_{CB}=80V, I_E=0$			100
Collector-Emitter Cut-Off Current	I_{CES}	nA	$V_{CE}=80V, I_B=0$			100
Emitter-Base Cut-Off Current	I_{EBO}	nA	$V_{EB}=5V, I_C=0$			100
DC current gain	h_{FE}		$V_{CE}=10V, I_C=1mA$	150		
	h_{FE}		$V_{CE}=10V, I_C=250mA$	150		500
	h_{FE}		$V_{CE}=10V, I_C=500mA$	100		
	h_{FE}		$V_{CE}=10V, I_C=1A$	80		
Collector-emitter saturation voltage	$V_{CE(sat)}$	mV	$I_C=100mA, I_B=10mA$			40
	$V_{CE(sat)}$	mV	$I_C=500mA, I_B=50mA$			120
	$V_{CE(sat)}$	mV	$I_C=1A, I_B=100mA$			200
Collector-emitter saturation resistance	$R_{CE(sat)}$	m Ω	$I_C=1A, I_B=100mA$			200
Base-emitter saturation voltage	$V_{BE(sat)}$	V	$I_C=1A, I_B=100mA$			1.05
Base-emitter turn-on voltage	$V_{BE(ON)}$	V	$V_{CE}=10V, I_C=1A$			0.9

■ Characteristics





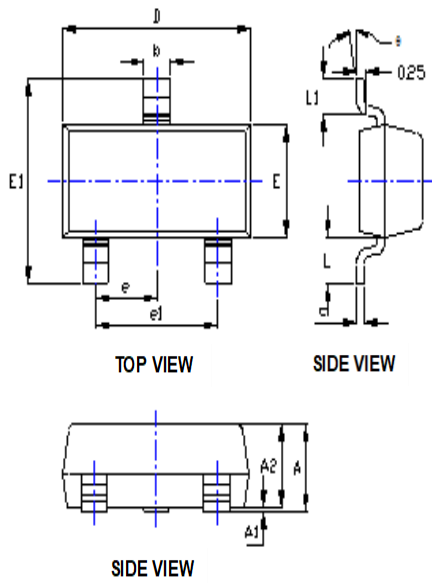
YJBS8110T





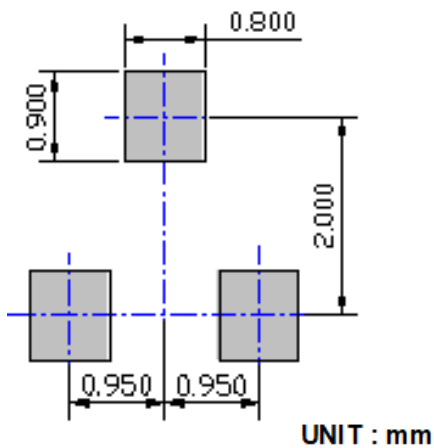
YJBS8110T

■ SOT-23 Package information



SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.045	0.900	1.150
A1	0.000	0.004	0.000	0.100
A2	0.035	0.041	0.900	1.050
b	0.012	0.020	0.300	0.500
c	0.004	0.008	0.100	0.200
D	0.110	0.118	2.800	3.000
E	0.047	0.055	1.200	1.400
E1	0.089	0.100	2.250	2.550
e	0.037TYP		0.950TYP	
e1	0.071	0.079	1.800	2.000
L	0.022REF		0.550REF	
L1	0.012	0.020	0.300	0.500
θ	0°	8°	0°	8°

■ Suggested Pad Layout





YJBS8110T

Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.21yangjie.com](http://www.21yangjie.com) , or consult your nearest Yangjie's sales office for further assistance.