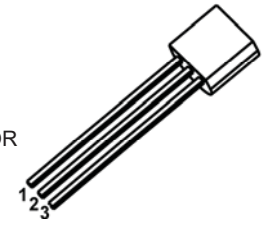
DONGGUAN NANJING ELECTRONICS LTD.,

TO-92 Plastic-Encapsulate Transistors

2SB1068 TRANSISTOR (PNP)

TO – 92

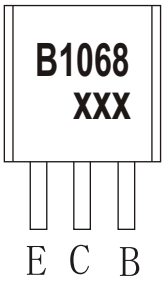
1. EMITTER
2. COLLECTOR
3. BASE



FEATURES

- Low Collector Saturation Voltage
- High DC Current Gain
- High Collector Power Dissipation
- Complementary To The 2SD1513 NPN Transistor

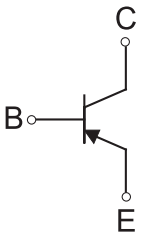
MARKING



B1068=Device code

XXX=Code

Equivalent Circuit



ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
2SB1068	TO-92	Bulk	1000pcs/Bag
2SB1068-TA	TO-92	Tape	2000pcs/Box

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-20	V
V_{CEO}	Collector-Emitter Voltage	-16	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current -Continuous	-2	A
P_D	Collector Power Dissipation	625	mW
R_{KJA}	Thermal Resistance ˇrom Junction ˇo Ambient	200	℃ /W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

ELECTRICAL CHARACTERISTICS

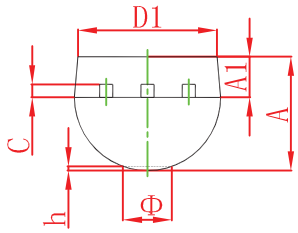
T_a=25℃ unless otherwise specified

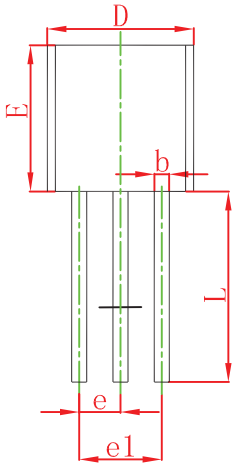
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=- 0.1mA,I_E=0	-20			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-1mA,I_B=0	-16			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-0.1mA,I_C=0	-6			V
Collector cut-off current	I_{CBO}	V_{CB}=-16V,I_E=0			-0.1	ʏA
Emitter cut-off current	I_{EBO}	V_{EB}=-6V,I_C=0			-0.1	ʏA
DC current gain	$h_{FE(1)}$	V_{CE}=-2V, I_C=-0.1A	135		650	
	$h_{FE(2)}$	V_{CE}=-2V, I_C=-1.5A	100			
Collector-emitter saturation voltage	$V_{CE(sat)1}$	I_C=-1A,I_B=-10mA			-0.4	V
	$V_{CE(sat)2}$	I_C=-1.5A,I_B=-20mA			-0.5	V
	$V_{CE(sat)3}$	I_C=-1.5A,I_B=-75mA			-0.5	V
Base-emitter saturation voltage	$V_{BE\ (sat)}$	I_C=-1.5A,I_B=-75mA			-1.2	V
Base-emitter voltage	V_{BE}	V_{CE}=-6V, I_C=-5mA	-0.55		-0.65	V
Collector output capacitance	C_{ob}	V_{CB}=-10V,I_E=0, f=1MHz		60		pF
Transition frequency	f_T	V_{CE}=-10V,I_C=-50mA	100			MHz

CLASSIFICATION OF $h_{FE(1)}$

RANK	L	K	U
RANGE	135-270	200-400	300-650

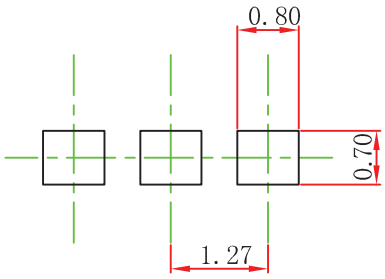
TO-92 Package Outline Dimensions





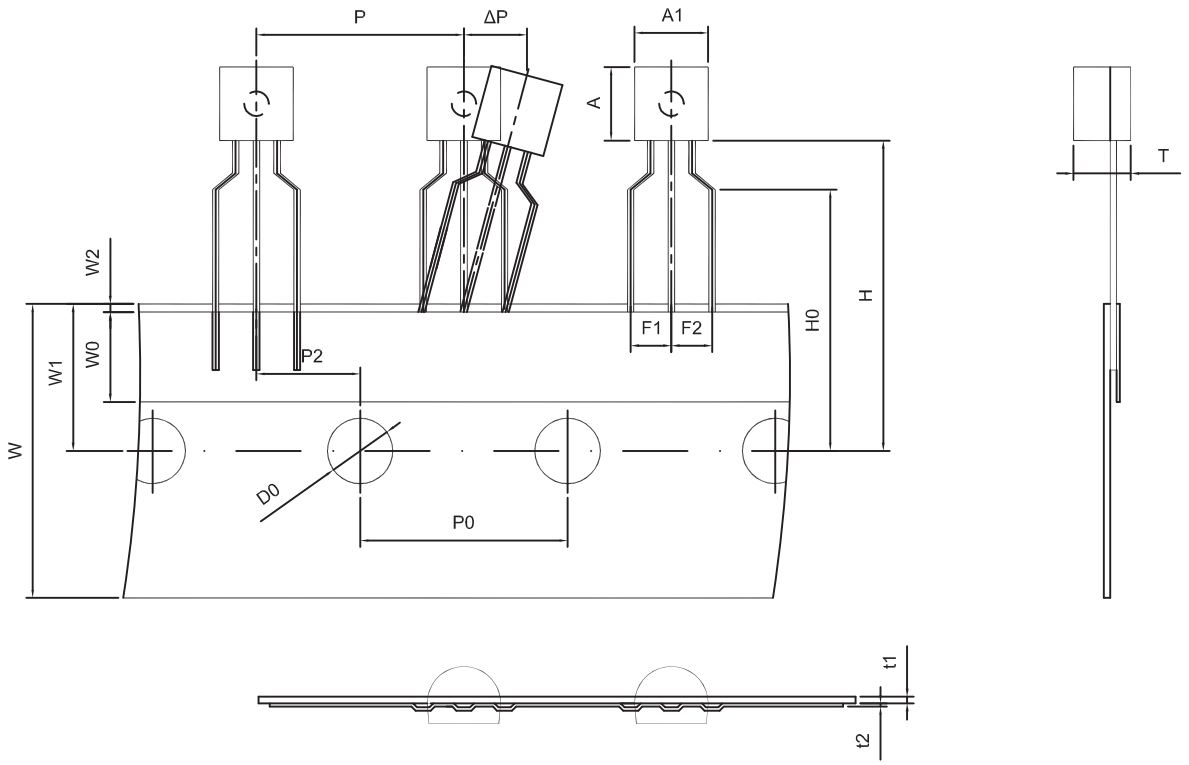
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Φ		1.600		0.063
h	0.000	0.380	0.000	0.015

TO-92 Suggested Pad Layout

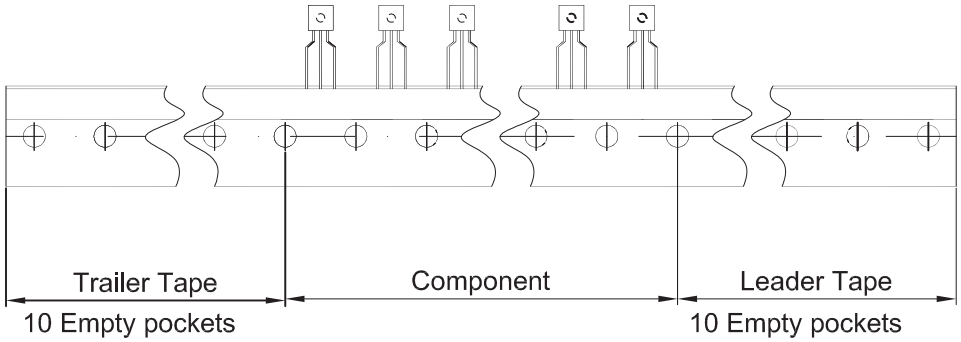


Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

TO-92 Tape and Reel



Dimiensions are in millimeter								
A1	A	T	P	P0	P2	F1	F2	W
4.5	4.5	3.5	12.7	12.7	6.35	2.5	2.5	18.0
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0	9.0	1.0 MAX.	19.0	16.0	4.0	0.4	0.2	0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92	2000 pcs	333×162×43	20,000 pcs	350×340×250