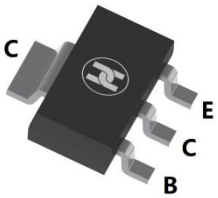
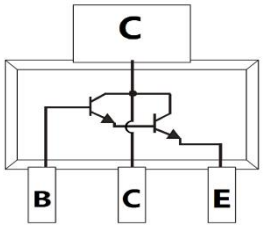
BIPOLAR TRANSISTOR (NPN)



SOT-223



FEATURES

- Complementary to PZTA64
- Low Voltage and High Current
- Pre-amplifiers requiring high input impedance
- Surface Mount device

MECHANICAL DATA

- Case: SOT-223
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.04 grams (approximate)

MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Base Voltage	V_{EBO}	10	V
Collector Current	I_C	500	mA
Collector Power Dissipation	P_C	1	W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-65 ~+150	°C

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

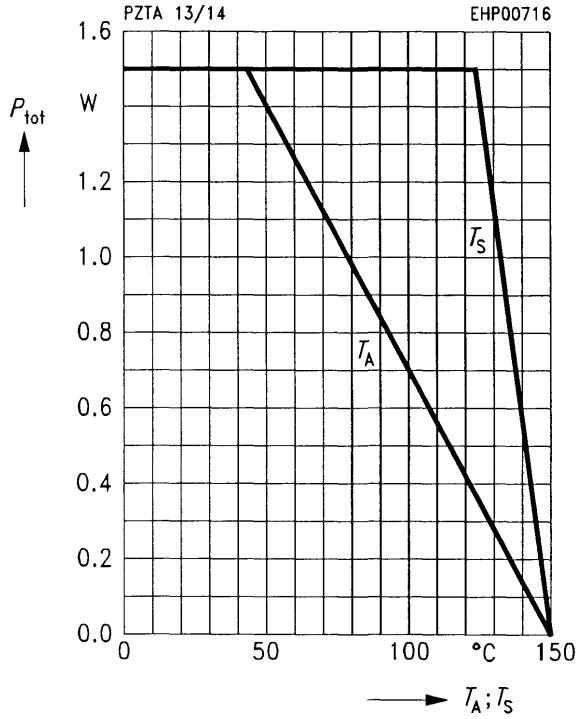
Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Collector-base breakdown voltage	$V_{(BR)CBO}$	30			V	I_C=100μA, I_E=0
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	30			V	I_C=100μA, I_B=0
Emitter-base breakdown voltage	$V_{(BR)EBO}$	10			V	I_E=100μA, I_C=0
Collector cut-off current	I_{CBO}			100	nA	V_{CB}=30V, I_E=0
Base cut-off current	I_{CEO}			100	nA	V_{EB}=10V, I_C=0
DC current gain	h_{FE}	10000				V_{CE}=5V, I_C=10mA
		20000				V_{CE}=5V, I_C=100mA
Collector-emitter saturation voltage	$V_{CE(sat)}$			1.5	V	I_C=100mA, I_B=0.1mA
Base-emitter voltage	V_{BE}			2	V	V_{CE}=5V, I_C=100mA
Transition frequency	f_T	125			MHz	V_{CE}=5V, I_C=10mA,f=100MHz

MARKING:PZTA14

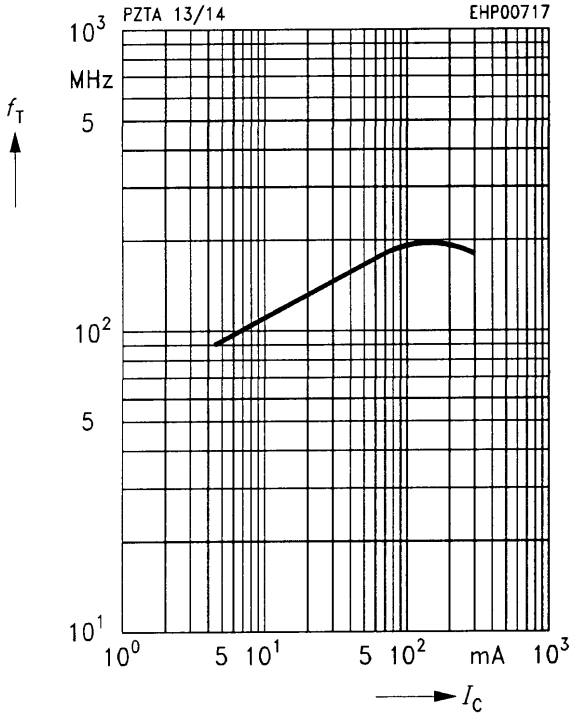
BIPOLAR TRANSISTOR (NPN)

Typical Characteristics

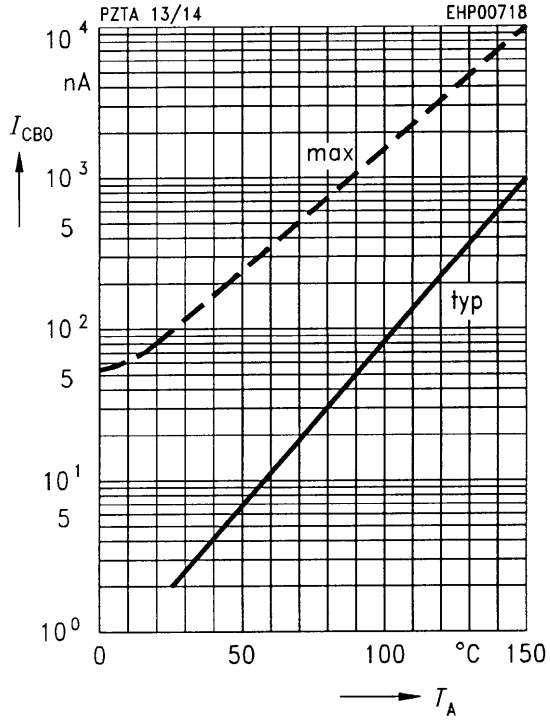
Total power dissipation $P_{tot} = f(T_A^*; T_S)$
* Package mounted on epoxy



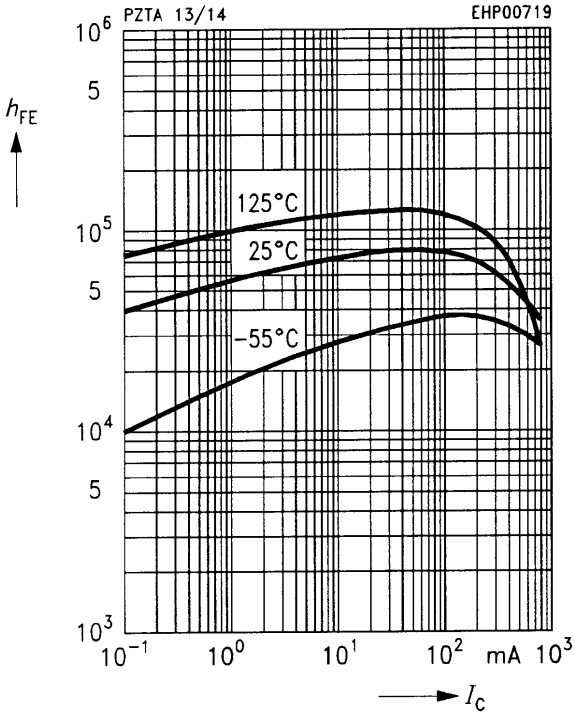
Transition frequency $f_T = f(I_C)$
V_{CE} = 5 V, f = 100 MHz



Collector cutoff current $I_{CB0} = f(T_A)$
V_{CE} = 30 V



DC current gain $h_{FE} = f(I_C)$
V_{CE} = 5 V

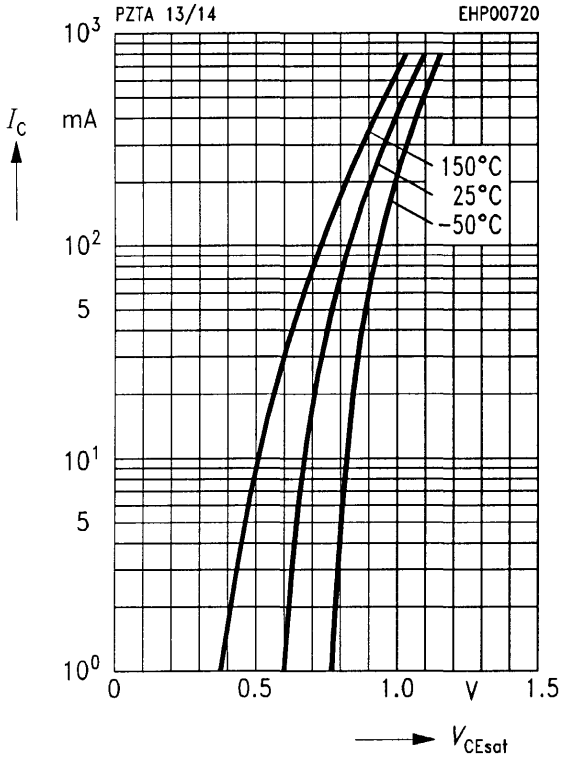


BIPOLAR TRANSISTOR (NPN)

Collector-emitter saturation voltage

$I_C = f(V_{CE\,sat})$

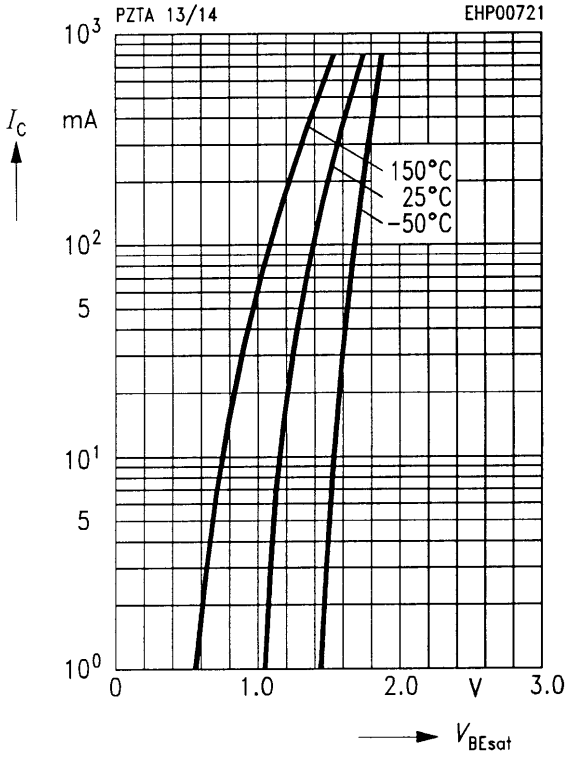
$h_{FE} = 1000$



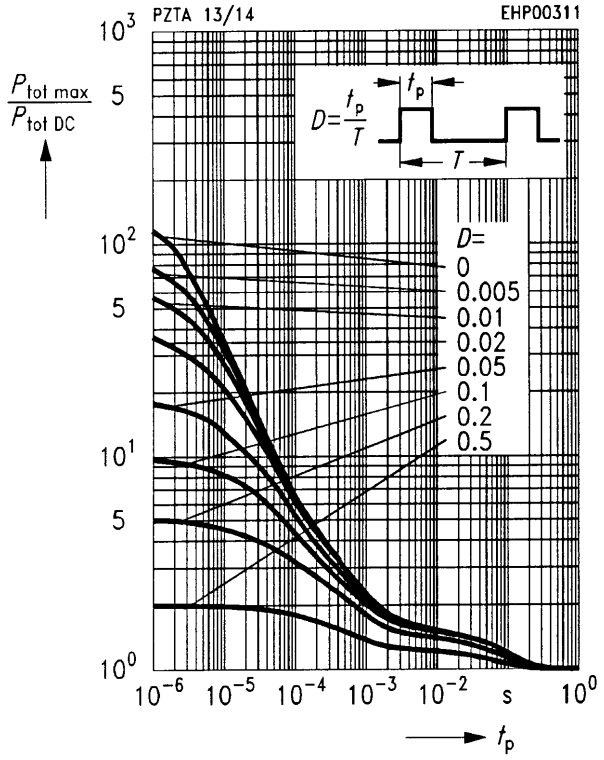
Base-emitter saturation voltage

$I_C = f(V_{BE\,sat})$

$h_{FE} = 1000$

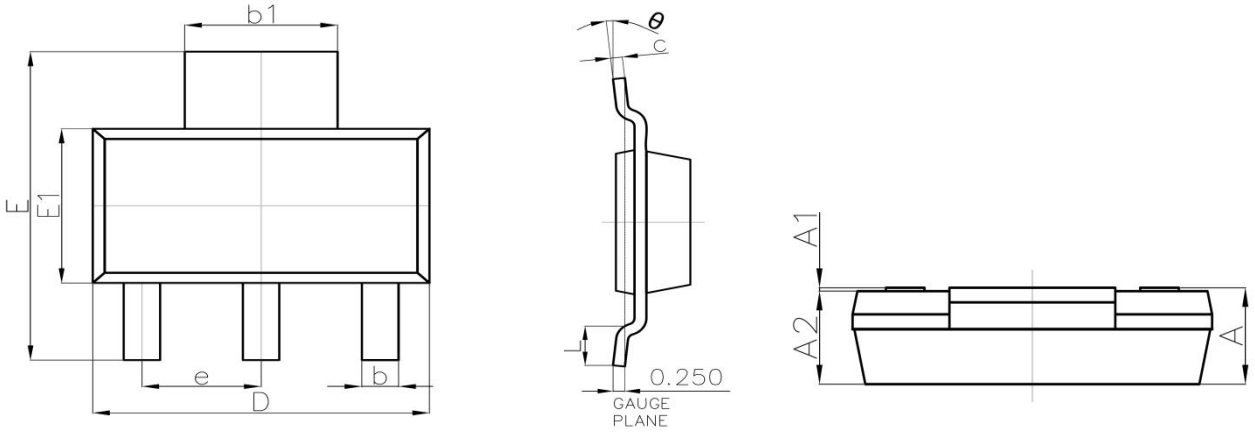


Permissible pulse load $P_{tot\,max} / P_{tot\,DC} = f(t_p)$



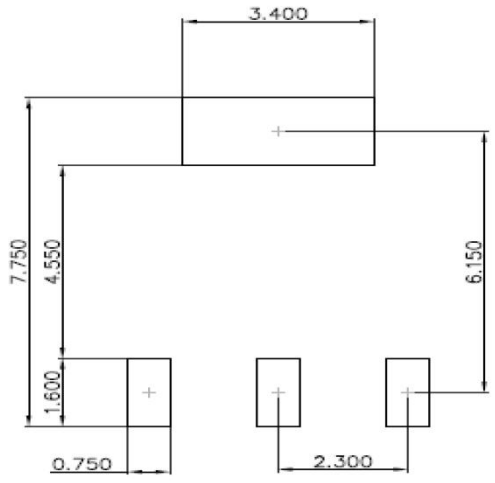
BIPOLAR TRANSISTOR (NPN)

SOT-223 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	——	1.800	------	0.071
A1	0.020	0.100	0.001	0.004
A2	1.500	1.700	0.059	0.067
b	0.660	0.840	0.026	0.033
b1	2.900	3.100	0.114	0.122
c	0.230	0.350	0.009	0.014
D	6.300	6.700	0.248	0.264
E	6.700	7.300	0.264	0.287
E1	3.300	3.700	0.130	0.146
e	2.300(BSC)		0.091(BSC)	
L	0.750	------	0.030	------
θ	0°	10°	0°	10°

SOT-223 Suggested Pad Layout



Note:

1.Controlling dimension: in millimeters

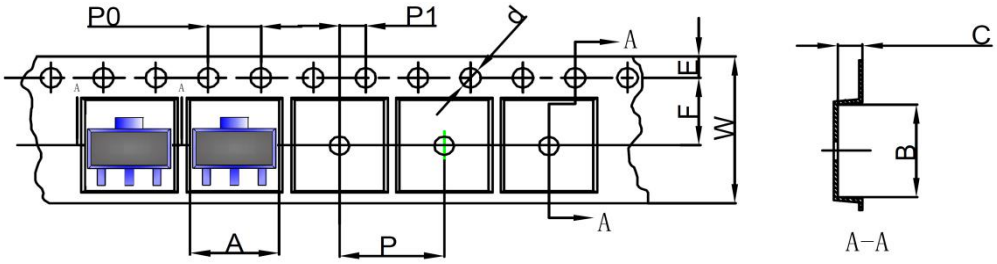
2.General tolerance: ±0.05mm

3.The pad layout is for reference purposes only

BIPOLAR TRANSISTOR (NPN)

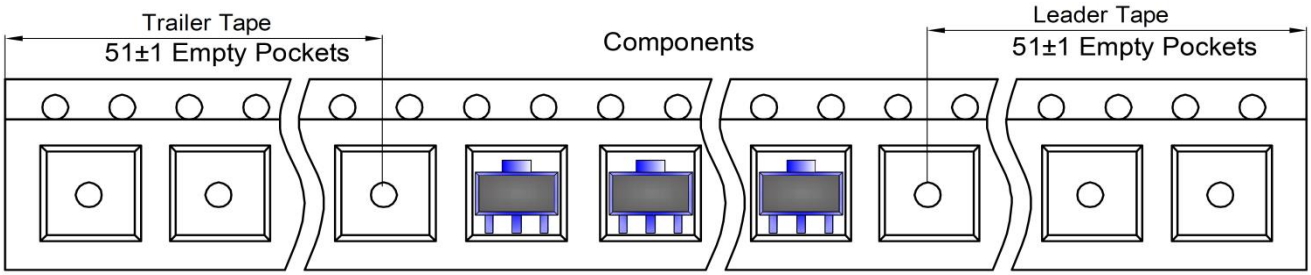
SOT-223 Tape and Reel

SOT-223 Embossed Carrier Tape

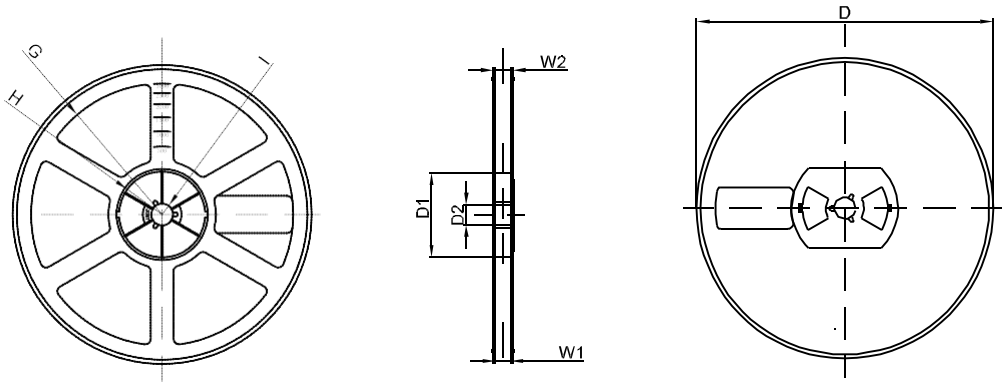


	DIMENSIONS ARE IN MILLIMETER									
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOT-223	6.765	7.335	1.88	Ø1.50	1.75	5.50	4.00	4.00	2.00	12.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

SOT-223 Tape Leader and Trailer



SOT-223 Reel



	DIMENSIONS ARE IN MILLIMETER							
REEL OPTION	D	D1	D2	G	H	I	W1	W2
13” DIA	Ø330.00	100.00	13.00	R151.00	R56.00	R6.50	12.40	17.60
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1