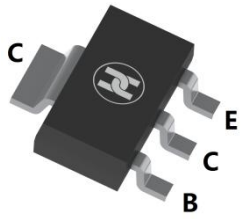
DARLINGTON TRANSISTOR (PNP)



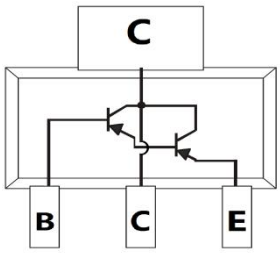
SOT-223

FEATURES

- Complementary to PZTA14
- Low Voltage and High Current
- High Current Gain Applications
- 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
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	125	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 ~+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	$V_{(BR)EBO}$	-5			V	I_E= -10μA, I_C=0
Collector cut-off current	I_{CBO}			-0.1	μA	V_{CB}= -30V, I_E=0
Emitter cut-off current	I_{EBO}			-0.1	μA	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 saturation voltage	V_{BE}*			-2	V	I_C= -100mA, V_{CE}= -5V
Transition frequency	f_T	125			MHz	V_{CE}=-5V,I_C=-10mA,f=100MHz

*Pulse test: pulse width≤350μs,duty cycle≤2%.

MARKING:PZTA64

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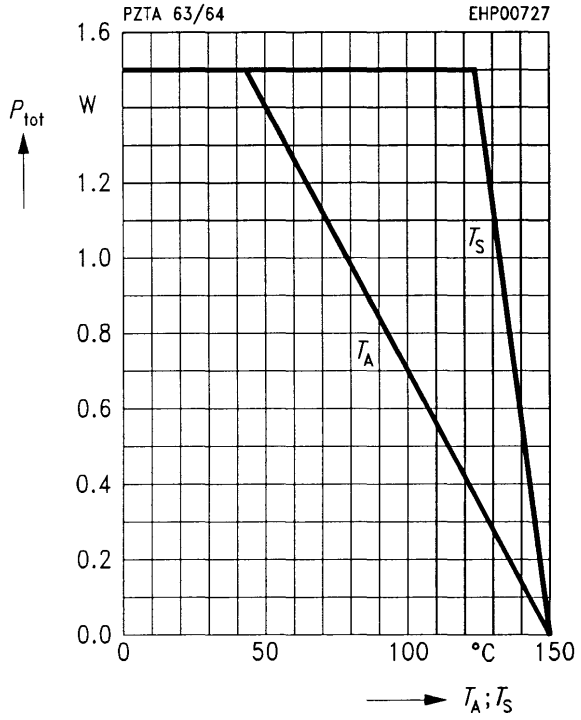
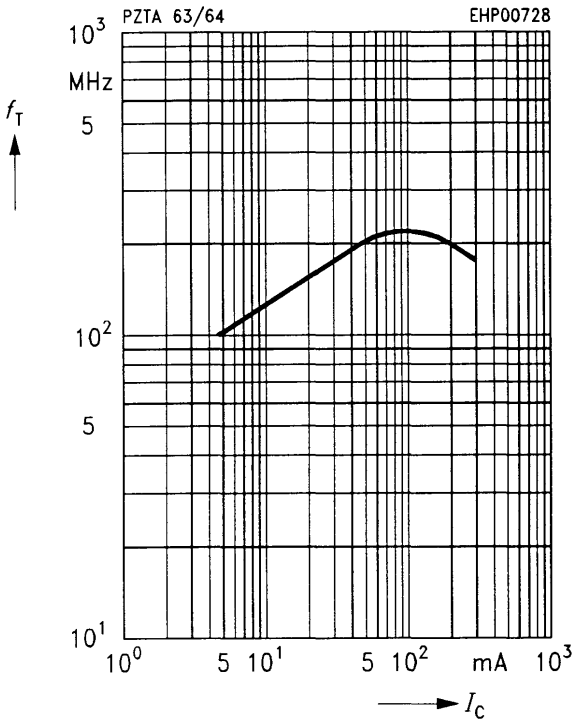
Typical Characteristics

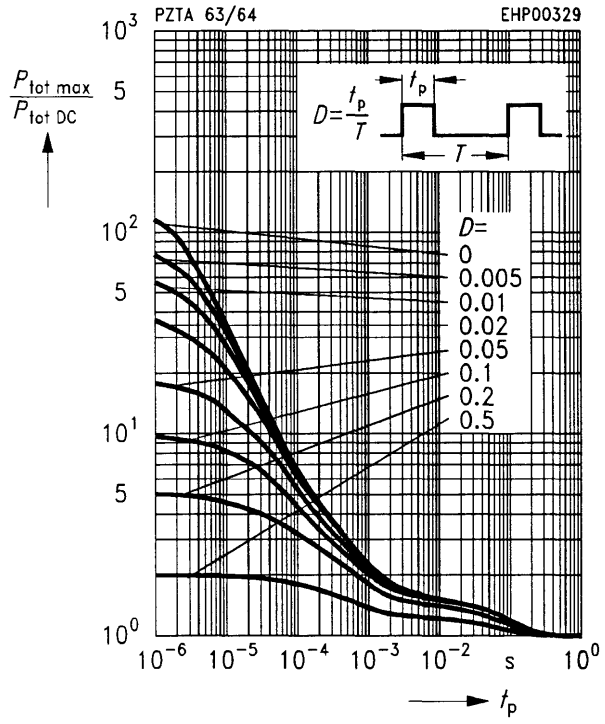
Total power dissipation $P_{tot} = f\ (T_A{}^*;\ T_S)$
* Package mounted on epoxy



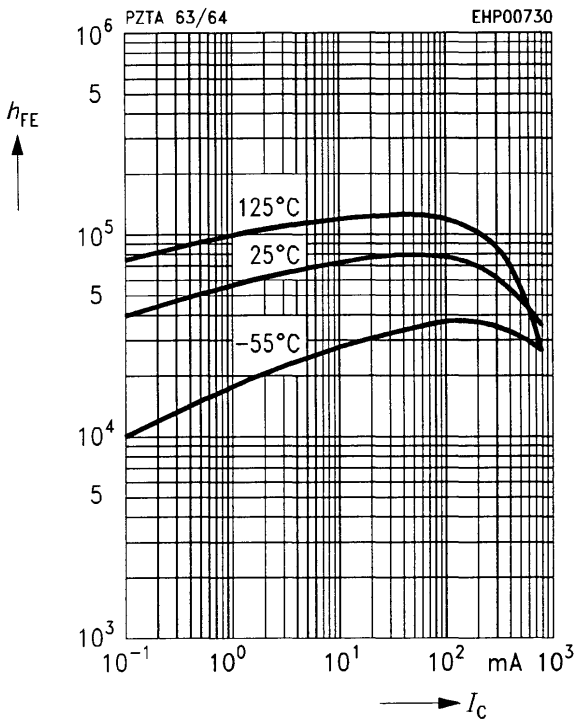
Transition frequency $f_T = f\ (I_C)$
V_{CE} = 5 V, f = 100 MHz



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



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

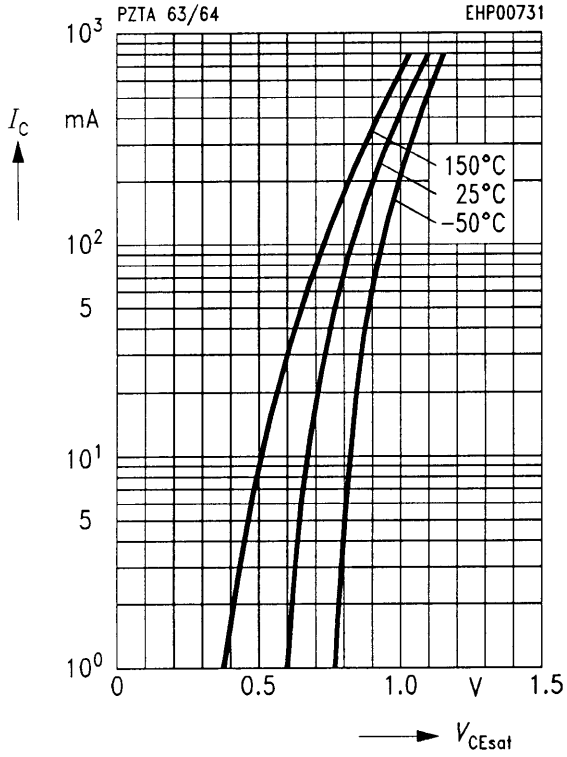


DARLINGTON TRANSISTOR (PNP)

Collector-emitter saturation voltage

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

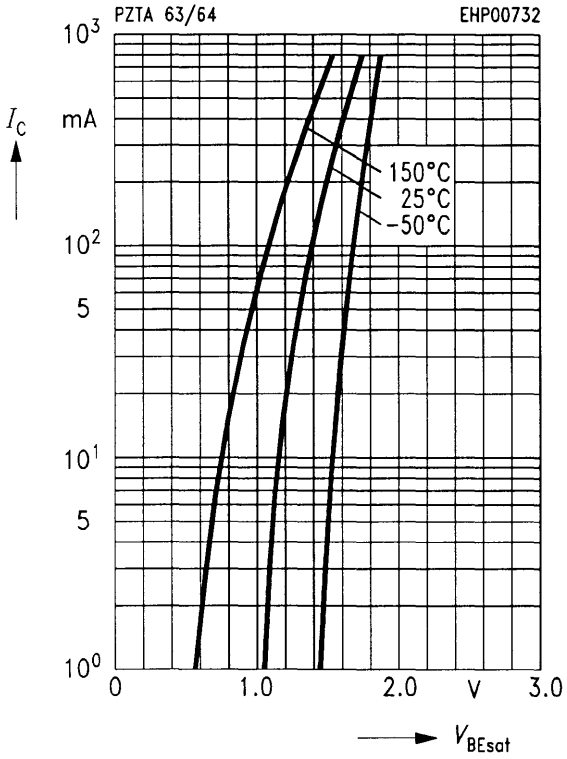
h_{FE} = 1000



Base-emitter saturation voltage

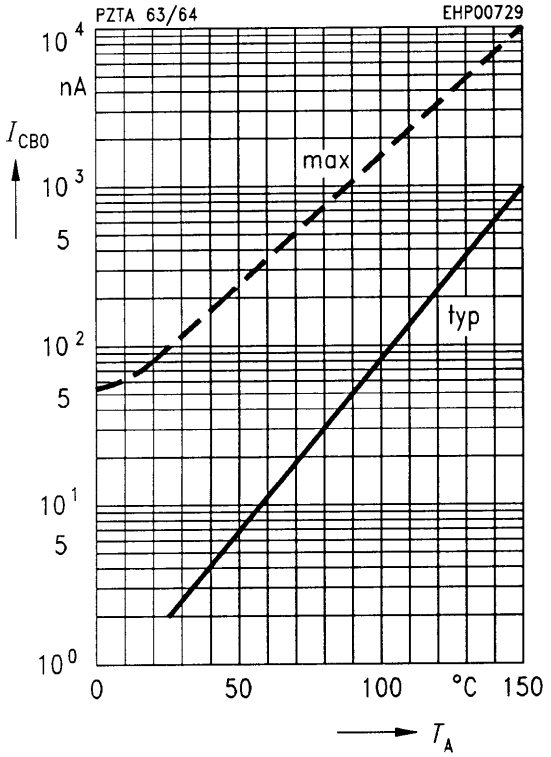
$I_C = f(V_{BE\ sat})$

h_{FE} = 1000



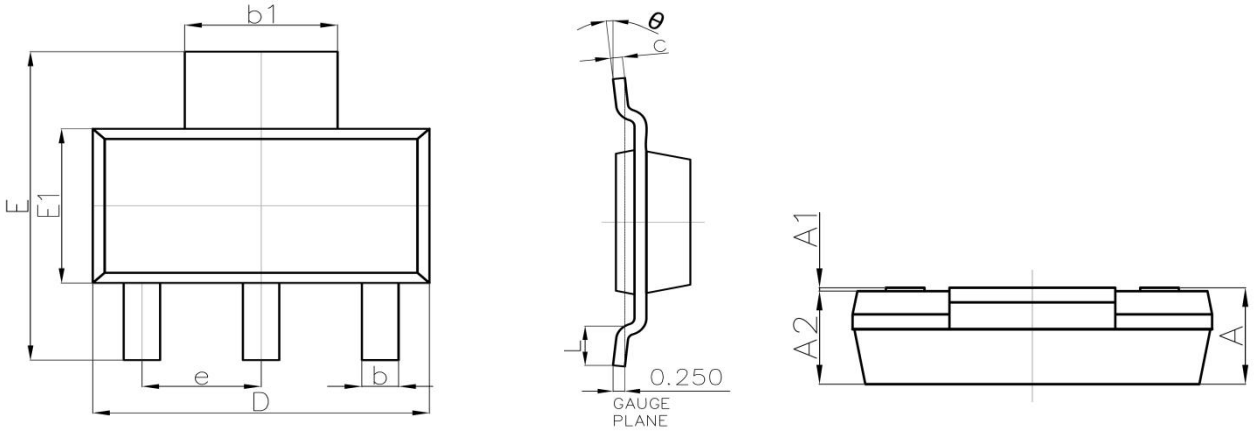
Collector cutoff current $I_{CB0} = f(T_A)$

V_{CE} = 30 V



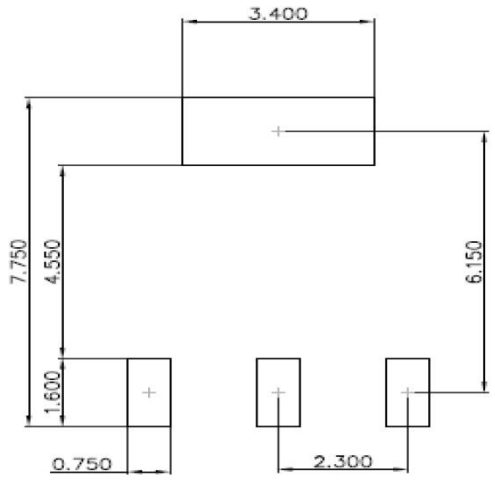
DARLINGTON TRANSISTOR (PNP)

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

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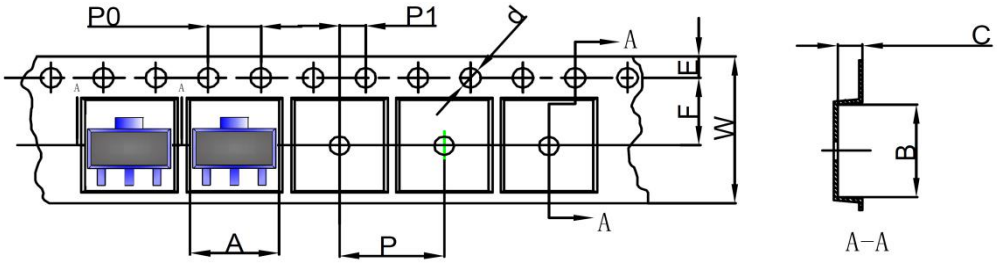
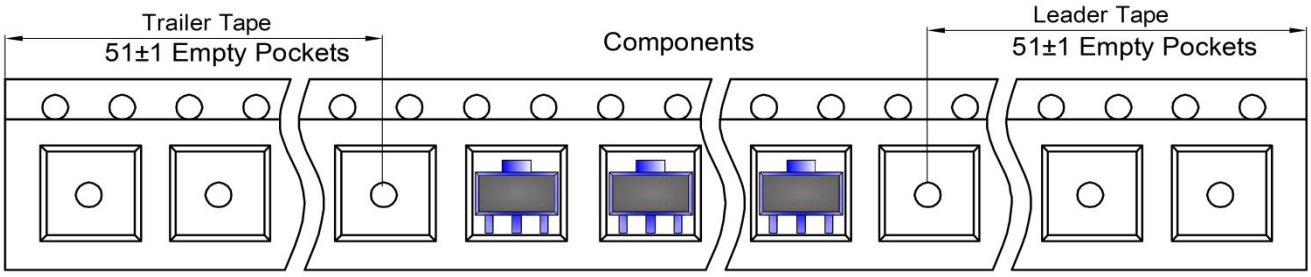
SOT-223 Tape and Reel

SOT-223 Embossed Carrier Tape

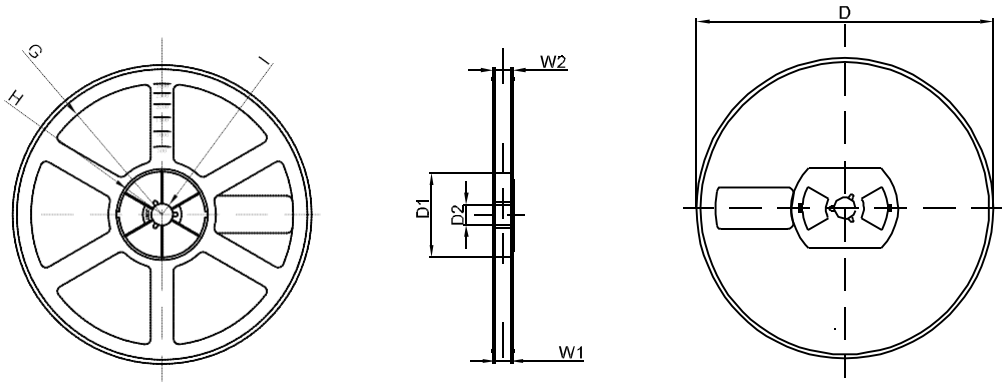


	DIMENSIONS ARE IN MILLIMETER									
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOT-223	6.765	7.335	1.88	Ø1.50	1.75	5.50	4.00	4.00	2.00	12.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

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