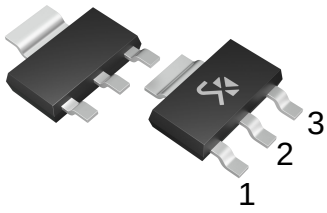
時科 SHIKUES

PZTA42

Silicon NPN bipolar Transistor

Features

- Collector-Emitter Voltage：300V
- Collector-Base Voltage: 300V
- Emitter-Base Voltage: 6V



Pin assignment

PIN NAME	PIN NUMBER SOT-223	FUNCTION
B	1	BASE
C	2	COLLECTOR
E	3	EMITTER

MAXIMUM RATINGS (T_A=25℃ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	300	V
V_{CEO}	Collector-Emitter Voltage	300	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	0.5	A
P_C	Collector Power Dissipation	2	W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55 to -150	℃

ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 100uA ， I_E=0	300			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= 1mA， I_B=0	300			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=10uA， I_C=0	6			V
Collector cut-off current	I_{CBO}	V_{CB}=300V, I_E =0			100	nA
Emitter cut-off current	I_{EBO}	V_{EB}= 6V, I_B=0			100	nA
DC current gain	h_{FE}	V_{CE}=10V I_C= 1mA V_{CE}=10V I_C= 5mA V_{CE}=10V I_C= 10mA	25 40 40			
Collector-emitter saturation voltage	V_{CE}(sat)	I_C=20mA， I_B= 2mA			0.5	V
Base-emitter saturation voltage	V_{BE}(sat)	I_C=20mA，I_B= 2mA			0.9	V
Transition Frequency	f_T	V_{CE}=20V，I_C=10mA ，f=100MHz	50			MHz
Output Capacitance	C_{ob}	V_{CE}=20V，f=1MHz			3	pF

Typical characteristics

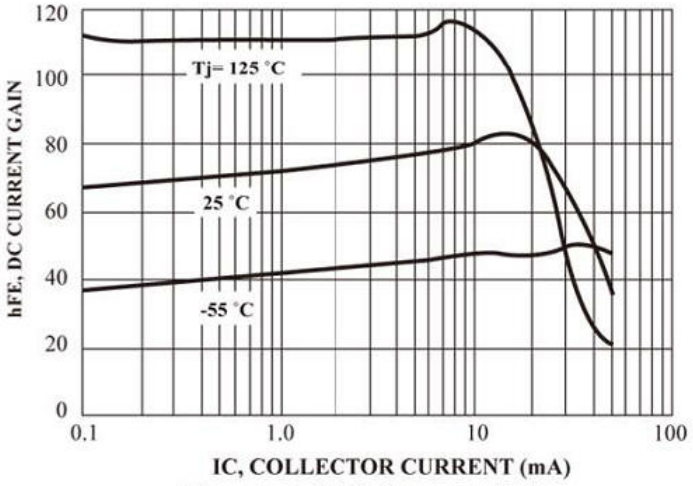


Figure .1 DC Current Gain

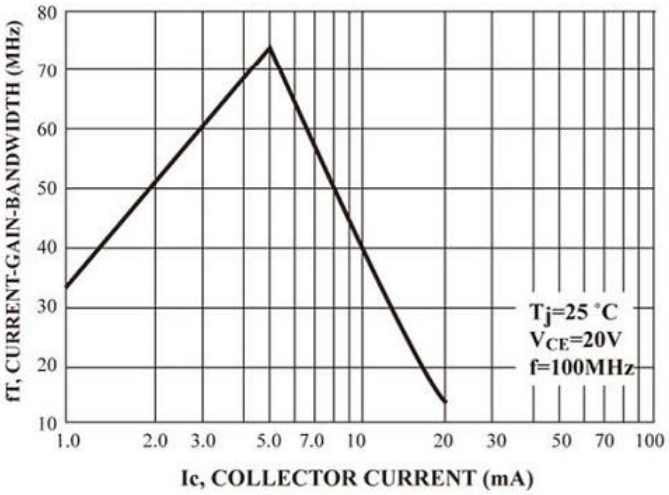
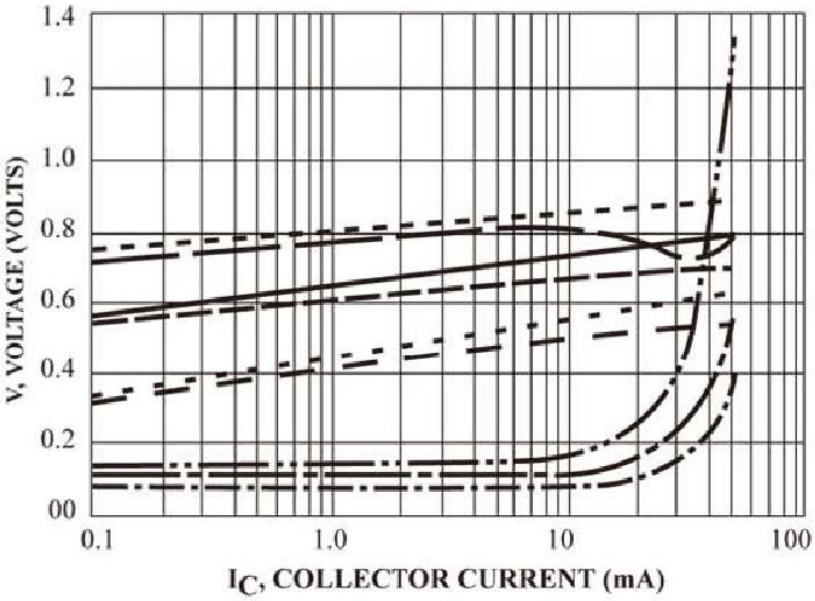


Figure .2 Current-Gain-Bandwidth



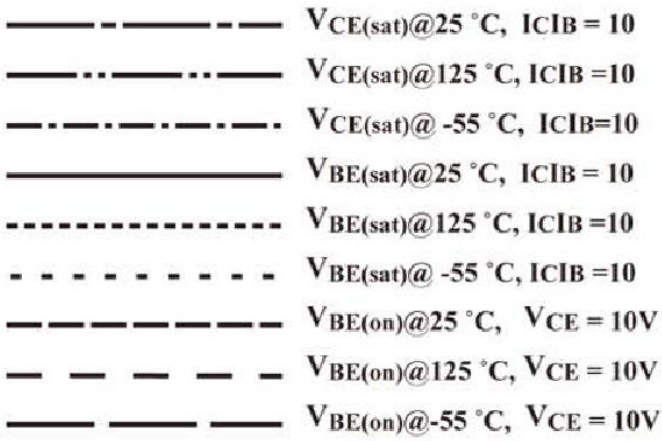
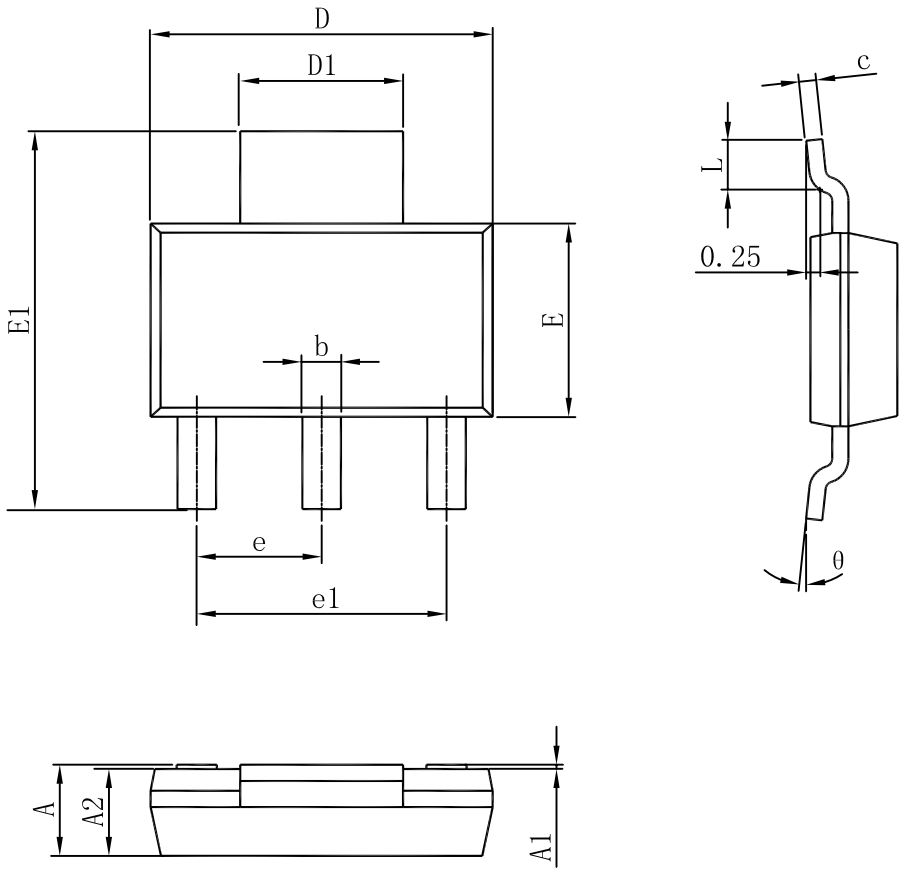


Figure.3 "On"Voltages

SOT-223 PACKAGE OUTLINE DIMENSIONS



Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.520	1.800	0.06	0.071
A1	0.02	0.100	0.001	0.004
A2	1.500	1.700	0.059	0.067
b	0.660	0.810	0.026	0.032
c	0.240	0.320	0.010	0.014
D	6.300	6.500	0.248	0.256
D1	2.900	3.100	0.114	0.122
E	3.300	3.700	0.130	0.146
E1	6.830	7.070	0.269	0.278
e	2.3（BSC）		0.091（BSC）	
e1	4.500	4.700	0.177	0.185
L	0.900	1.150	0.035	0.045
θ	0°	10°	0°	10°