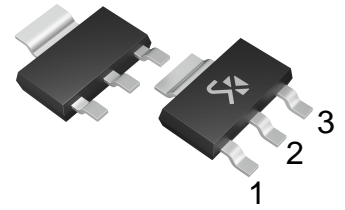


## Silicon NPN bipolar Transistor

### Features

- High Collector Current
- 1.3W Power Dissipation



Pin assignment

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

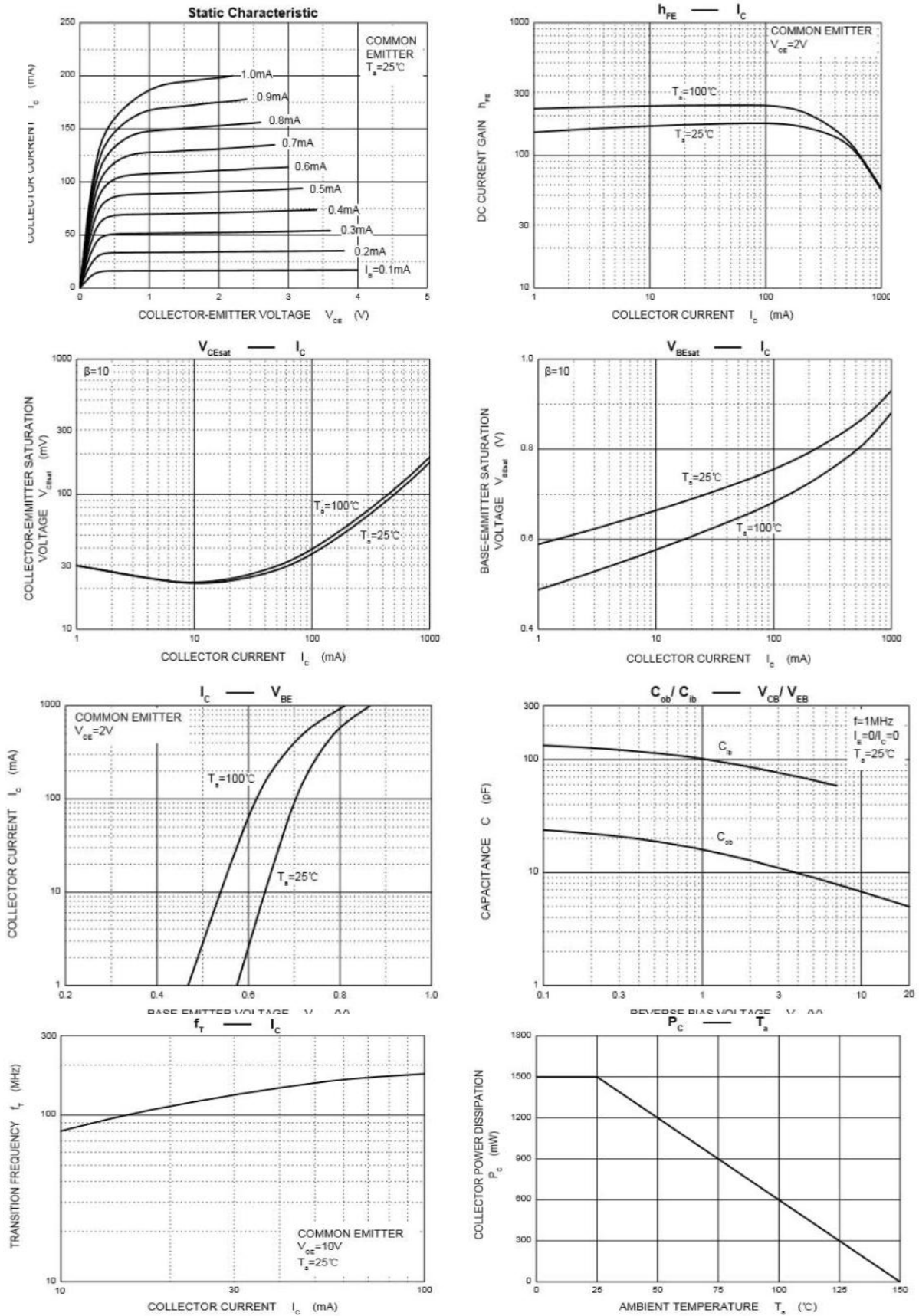
### MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	BCP54	45
		BCP55	60
		BCP56	100
$V_{CEO}$	Collector-Emitter Voltage	BCP54	45
		BCP55	60
		BCP56	80
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current -Continuous	1	A
$I_{CM}$	Peak Collector Current	1.5	A
$I_{BM}$	Peak Base Current	0.2	A
$P_{tot}$	Total power consumption	1.33	W
$T_j$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature Range	-65 to +150	$^{\circ}\text{C}$
$R_{th(j-a)}$	Thermal resistance from junction to environment	95	K/W
$R_{th(j-s)}$	Thermal resistance from junction to solder point	13	K/W

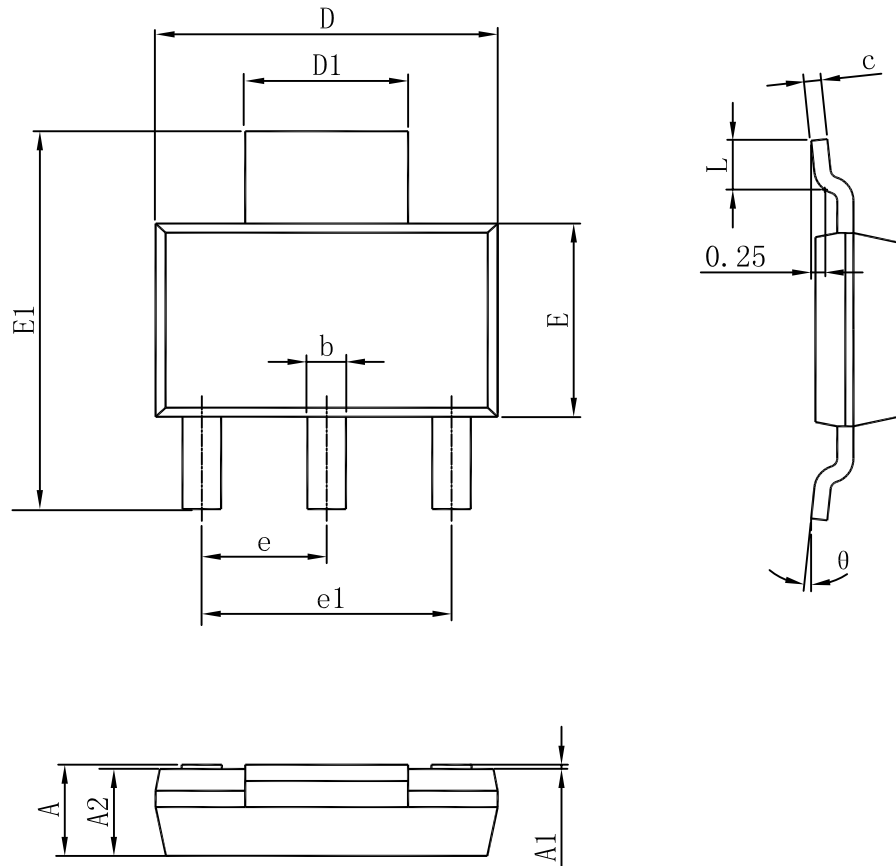
### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-Emitter cut-off current	$I_{CBO}$	$V_{CE}=30V, I_E=0$			100	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5V, I_B=0$			100	nA
DC current gain BCP54-10,BCP55-10,BCP56-10 BCP54-16,BCP55-16,BCP56-16	$h_{FE}$	$V_{CE}=2V, I_C=5mA$	63			
		$V_{CE}=2V, I_C=150mA$	63		250	
		$V_{CE}=2V, I_C=500mA$	40			
		$V_{CE}=2V, I_C=150mA$	63		160	
		$V_{CE}=2V, I_C=150mA$	100		250	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=50mA$			0.5	V
Base to emitter voltage	$V_{BE}$	$I_C=500mA, V_{CE}=2V$			1	V
Transition Frequency	$f_T$	$V_{CE}=5V, I_C=10mA, f=100MHz$		130		MHz

## Typical characteristics



## 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°