

NPN TRANSISTOR

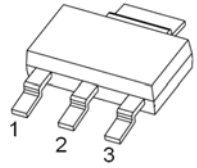
FEATURES

- Low current : 300mA(max)
- High voltage: $V_{CE0}=400V$

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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	400	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	200	mA
I_{CM}	Collector Current-Pluse	300	mA
P_C	Collector Power Dissipation	1	W
T_j	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature	-65~150	$^{\circ}C$

SOT-223

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1. BASE
 2. COLLECTOR
 3. EMITTER

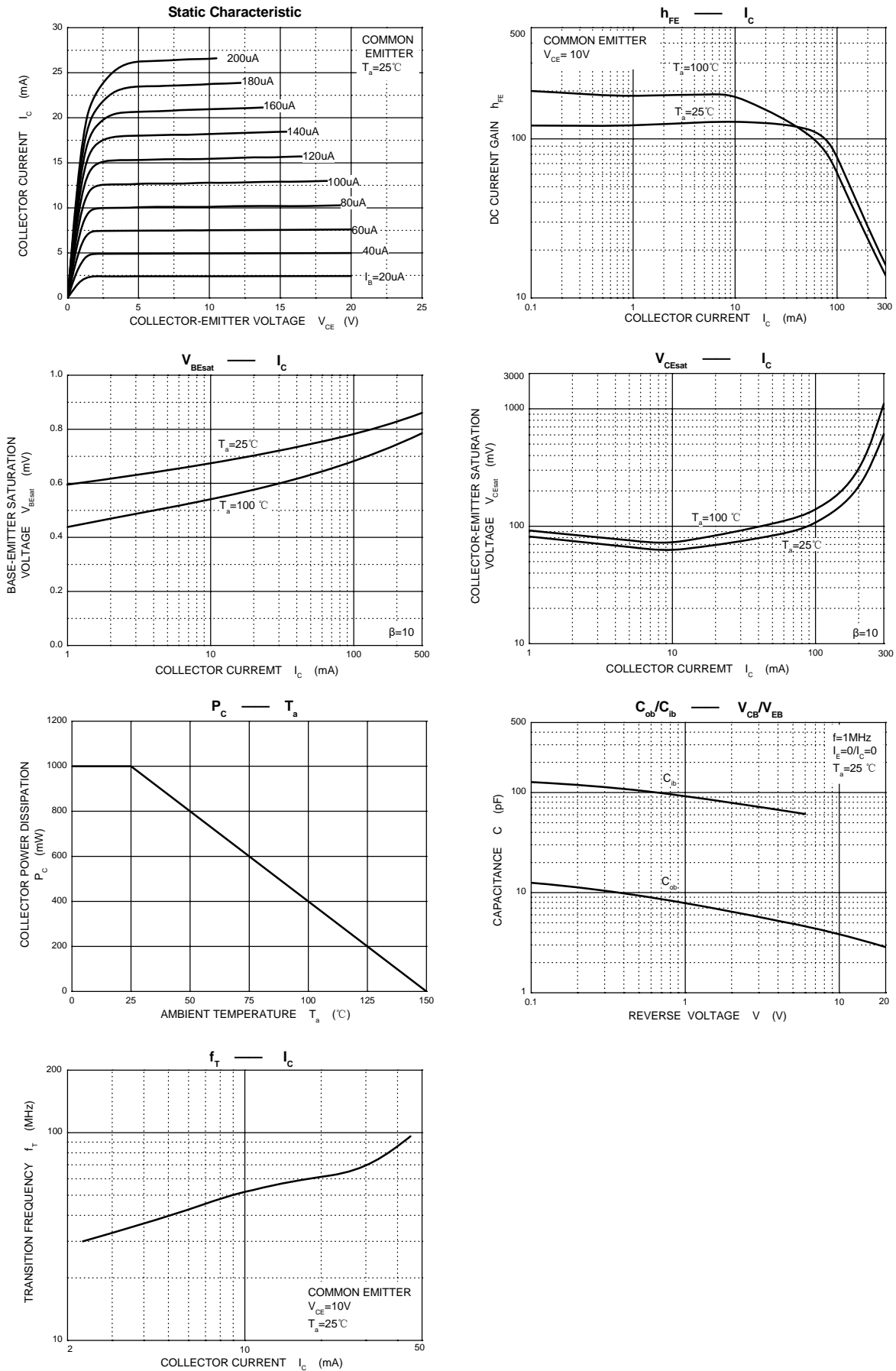
MARKING:



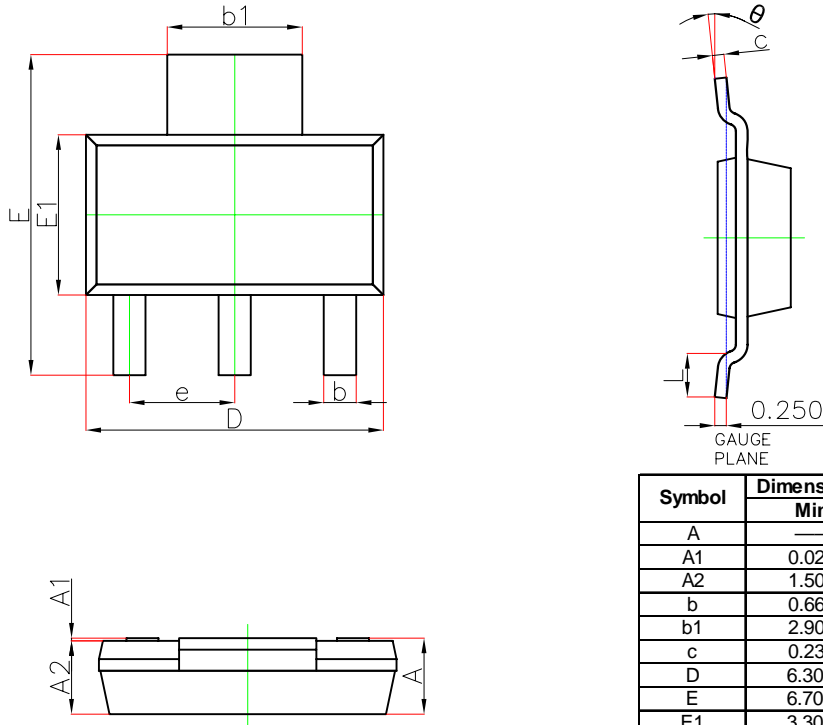
ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	400			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}=400V, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=4V, I_C=0$			0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=10V, I_C=1mA$	40			
	$h_{FE(2)}$	$V_{CE}=10V, I_C=10mA$	50		250	
	$h_{FE(3)}$	$V_{CE}=10V, I_C=50mA$	45			
	$h_{FE(4)}$	$V_{CE}=10V, I_C=100mA$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=1mA, I_B=0.1mA$			0.4	V
	$V_{CE(sat)}$	$I_C=10mA, I_B=1mA$			0.5	V
	$V_{CE(sat)}$	$I_C=50mA, I_B=5mA$			0.75	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=10mA, I_B=1mA$			0.75	V
Transition frequency	f_T	$V_{CE}=10V, I_C=10mA, f=100MHz$	20			MHz
Collector capacitance	C_C	$V_{CB}=20V, I_E=0, f=1MHz$			7	pF
Emitter capacitance	C_e	$V_{EB}=0.5V, I_C=0, f=1MHz$			130	pF

Typical Characteristics

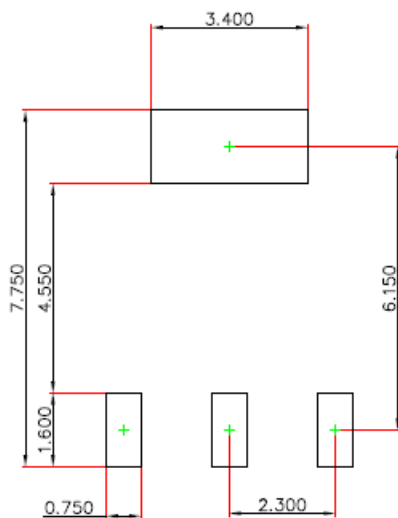


SOT-223 Package Outline Dimensions



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: ± 0.050 mm.
3. The pad layout is for reference purposes only.