

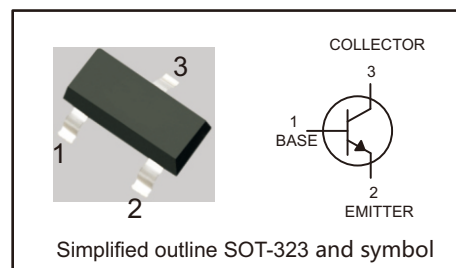
NPN TRANSISTOR

FEATURES

- Low C_{ob} , $C_{ob} = 2.0 \text{ pF}$ (Typ)

PINNING

PIN	DESCRIPTION
1	BASE
2	EMITTER
3	COLLECTOR



CLASSIFICATION OF hFE

Rank	Q	R	S
Range	120-270	180-390	270-560

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

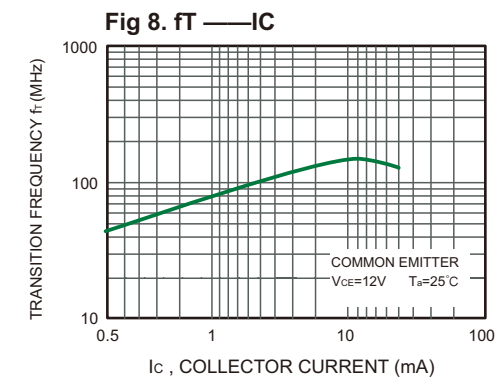
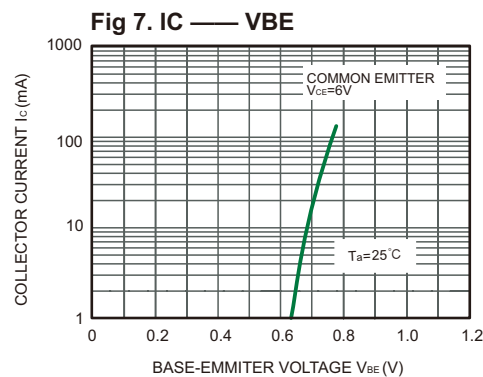
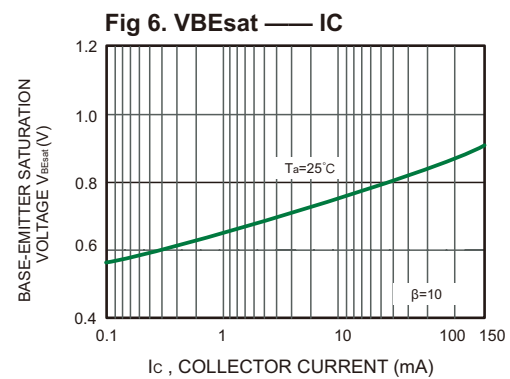
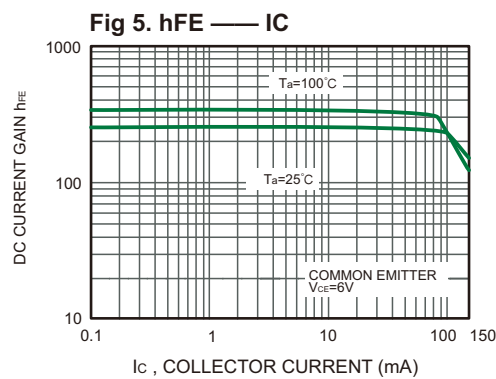
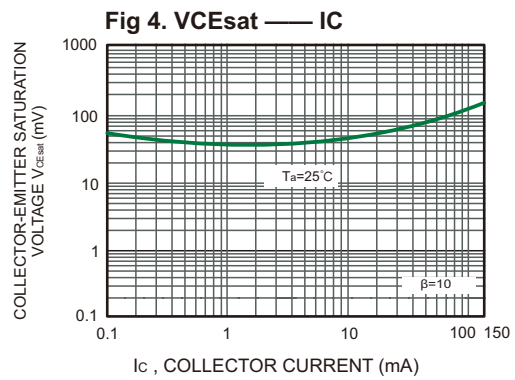
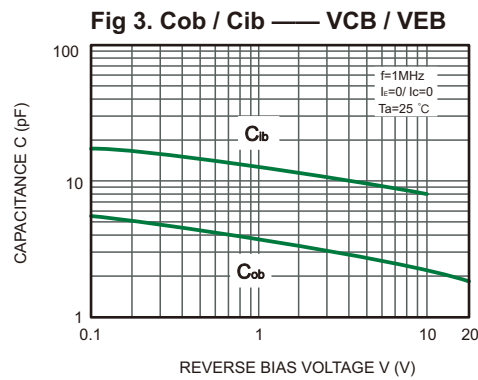
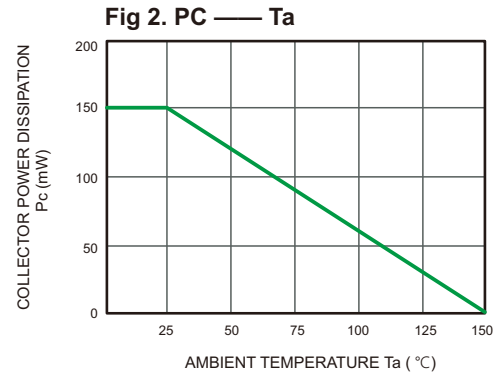
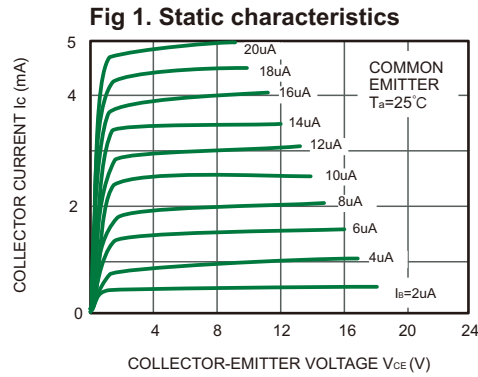
Parameter	Symbol	Value	Unit
Collector– Base Voltage	V_{CBO}	60	V
Collector– Emitter Voltage	V_{CEO}	50	V
Emitter– Base Voltage	V_{EBO}	7	V
Collector Current — Continuous	I_C	150	mA
Collector Power Dissipation	P_C	150	mW
Thermal Resistance From JunctionTo Ambient	$R_{\theta JA}$	833	$^\circ\text{C/W}$
Operation Junction and Storage Temperature Range	T_J, T_{stg}	-55~ +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted.)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 50\mu\text{A}, I_E = 0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, I_B = 0$	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 50\mu\text{A}, I_C = 0$	7			V
Collector cut-off current	I_{CBO}	$V_{CB} = 60\text{V}, I_E = 0$			100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = 7\text{V}, I_C = 0$			100	nA
DC current gain	h_{FE}	$V_{CE} = 6\text{V}, I_C = 1\text{mA}$	120		560	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 50\text{mA}, I_B = 5\text{mA}$			0.4	V
Transition frequency	f_T	$V_{CE} = 12\text{V}, I_C = 2\text{mA}, f = 30\text{MHz}$		180		MHz
Collector output capacitance	C_{ob}	$V_{CB} = 12\text{V}, I_E = 0, f = 1\text{MHz}$		2.0	3.5	pF

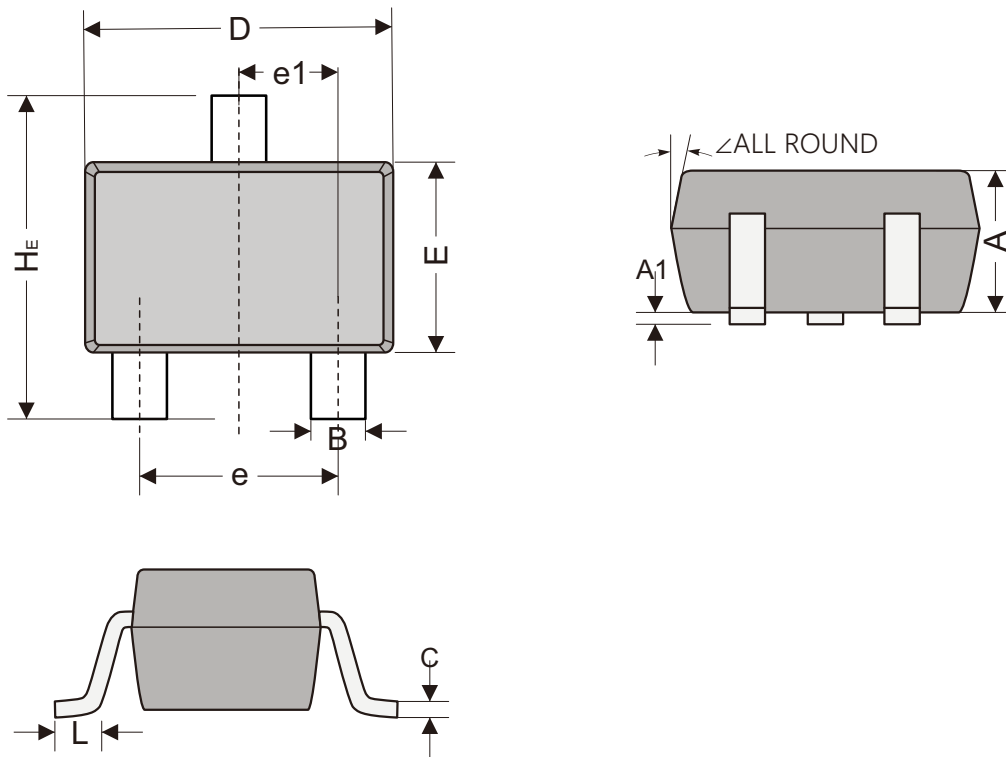


TYPICAL CHARACTERISTICS





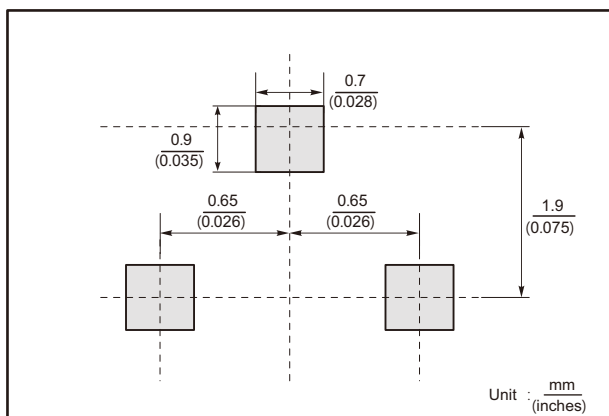
SOT-323 Package Outline Dimensions



SOT-323 mechanical data

UNIT		A	A1	B	C	D	E	e	e1	L	HE
mm	max	1.00	0.10	0.40	0.25	2.20	1.35	1.40	0.65 (BSC)	0.425 REF	2.40
	min	0.80	0.00	0.30	0.10	1.80	1.15	1.20			2.00
mil	max	39.37	3.94	15.75	9.84	86.61	53.15	55.12	25.59 (BSC)	16.73 REF	94.49
	min	31.50	0.00	11.81	3.94	70.87	45.28	47.24			78.74

The recommended mounting pad size



Marking

Type number	Marking code
2SC4081WGQ	BQ
2SC4081WGR	BR
2SC4081WGS	BS



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