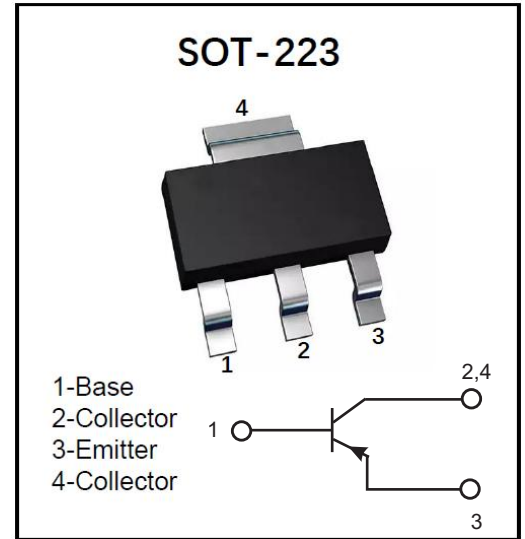


Features

- Surface mount package ideally suited for automatic insertion
- Halogen free and RoHS compliant
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

Mechanical Data

- Case: SOT-223
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin plated leads, solderable per J-STD-002 and JEDEC B102
- Marking code : S306PZ



Maximum Ratings (T_A = 25°C unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Collector-base voltage	V _{CBO}	V	I _C =-1mA, I _E =0	-100
Collector-emitter voltage	V _{CEO}	V	I _C =-1mA, I _B =0	-100
Emitter-base voltage	V _{EBO}	V	I _E =-100uA, I _C =0	-5
Collector current	I _C	A		-4.1
Power dissipation	P _D	mW		500
Junction temperature	T _J	°C		-55 to +150
Storage temperature	T _{STG}	°C		-55 to +150

Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	R _{θJA} ⁽¹⁾	°C/W	250
Thermal resistance, junction-to-case	R _{θJC} ⁽¹⁾	°C/W	50

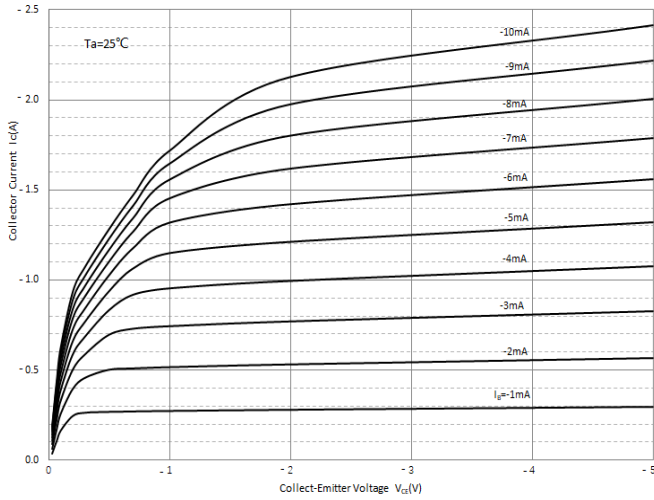
Note: 1) The device is installed and tested on 25.4 * 25.4 * 1.5mm P.C.B.

Electrical Characteristics (T_A = 25°C unless otherwise specified)

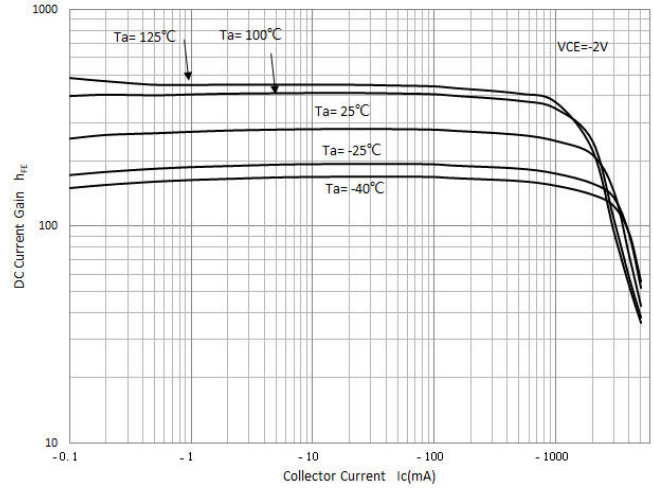
Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	V _{(BR)CBO}	V	I _C =-1mA, I _E =0	-100		
Collector-emitter breakdown voltage	V _{(BR)CEO}	V	I _C =-1mA, I _B =0	-100		
Emitter-base breakdown voltage	V _{(BR)EBO}	V	I _E =-100uA, I _C =0	-5		
Collector-base cut-off current	I _{CBO}	nA	V _{CB} =-80V I _E =0			-100
Emitter-base cut-off current	I _{EBO}	nA	V _{EB} =-5V I _C =0			-100
Collector Cutoff Current	I _{CES}	nA	V _{CE} =-48V V _{BE} =0			-100
DC current gain	h _{FE}		V _{CE} =-2V I _C =-0.5A	200		
			V _{CE} =-2V I _C =-1A	150		
			V _{CE} =-2V I _C =-2A	100		
			V _{CE} =-2V I _C =-4A	25		
Collector-emitter saturation voltage	V _{CE(sat)}	mV	I _C =-0.5A I _B =-50mA			-60
			I _C =-1A I _B =-50mA			-130
			I _C =-4A I _B =-400mA			-300
Collector-emitter saturation resistance	R _{CE(sat)}	mΩ	I _C =-4A I _B =-400mA			75
Base-emitter saturation voltage	V _{BE(sat)}	V	I _C =-1A I _B =-100mA			-0.9
			I _C =-4A I _B =-400mA			-1.05
Base-emitter turn-on voltage	V _{BE}	V	V _{CE} =-2V I _C =-2A			-0.85

Ratings and Characteristics Curves

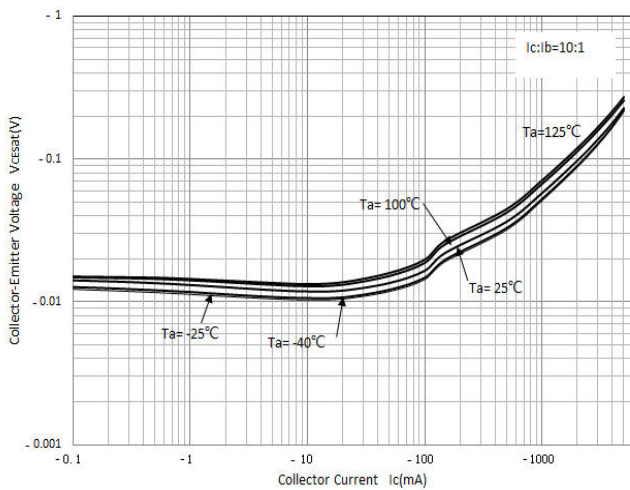
Static characteristic



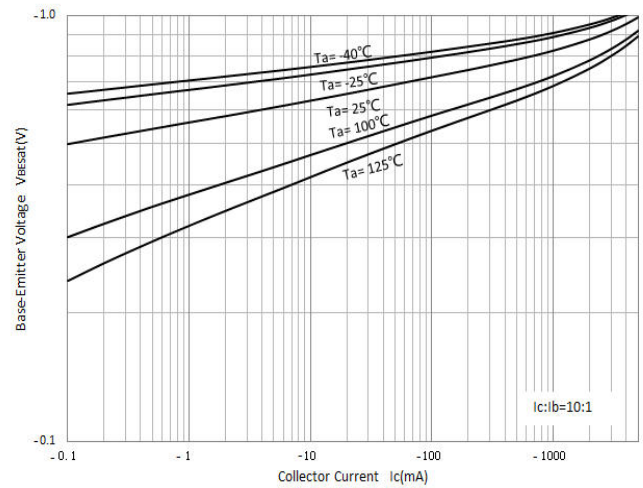
DC Current Gain



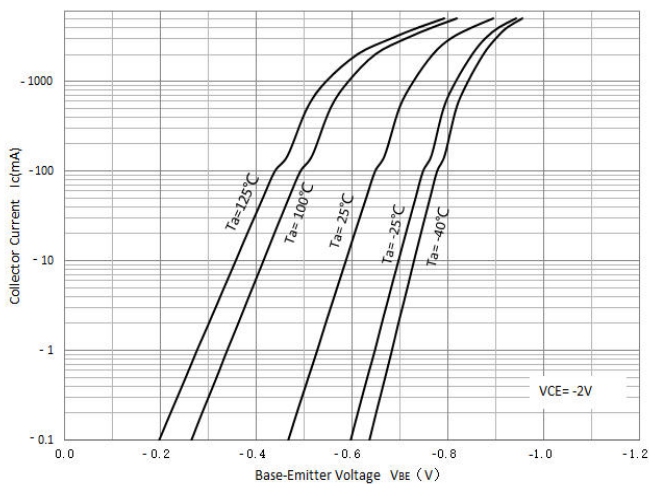
Collector-Emitter Saturation Voltage



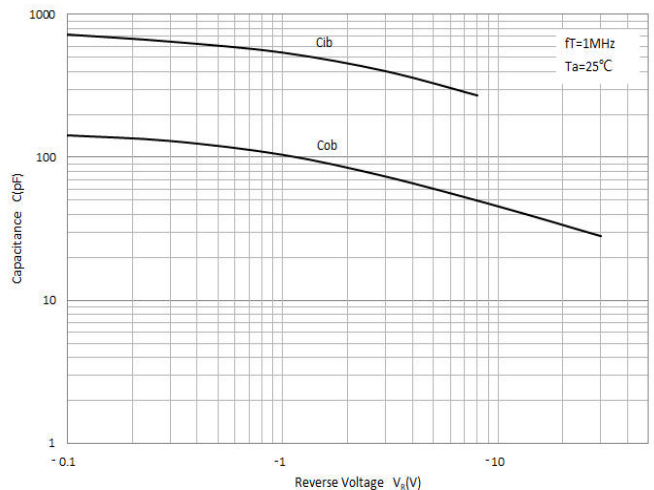
Base-Emitter Saturation Voltage



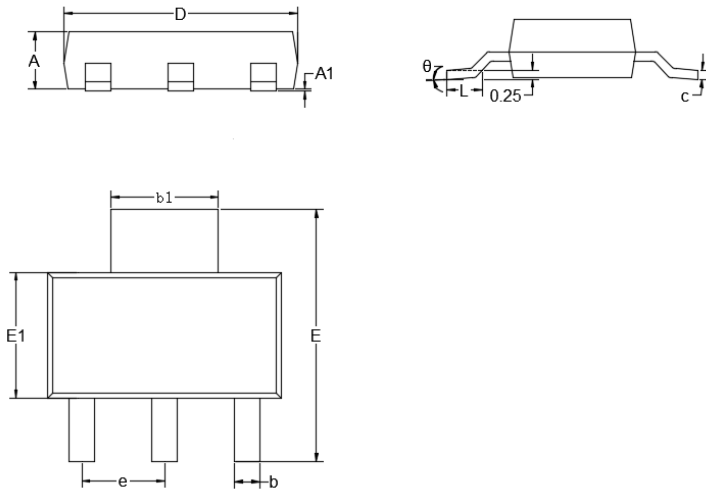
Base-Emitter On Voltage



$C_{ob}/C_{ib}-V_{ce}/V_{EB}$



Package Outline Dimensions (Unit: mm)



DIM	DIMENSIONS			
	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.0591	0.0670	1.5000	1.7000
A1	0.0008	0.0039	0.0200	0.1000
b	0.0259	0.0330	0.6600	0.8400
b1	0.1140	0.1220	2.9000	3.1000
c	0.0090	0.0138	0.2300	0.3500
D	0.2480	0.2640	6.3000	6.7000
E	0.2637	0.2874	6.7000	7.3000
E1	0.1290	0.1460	3.3000	3.7000
e	0.0866	0.0945	2.2000	2.4000
L	0.0295	0.0492	0.7500	1.2500
θ	0°	10°	0°	10°

Mounting Pad Layout (Unit: mm)

