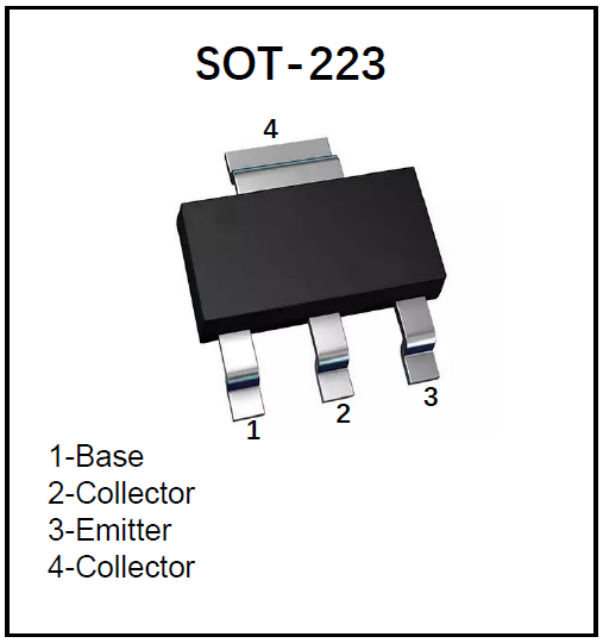
PNP Low VCEsat Transistor



Features

- Moisture Sensitivity Level 1
- Low collector-emitter saturation voltage
- Part no. with suffix “Q” means AEC-Q101 qualified

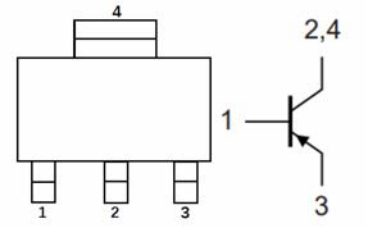
Application

- DC/DC converters; Supply line switching
- Battery charger; LED backlighting

Mechanical Data

- **Package**: SOT-223
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** PB5350

■Equivalent circuit



■Maximum Ratings (Ta=25℃ unless otherwise noted)

Item	Symbol	Unit	Value
Minimum Collector-Emitter Voltage	V_{CEO}	V	-50
Minimum Collector-Base Voltage	V_{CBO}	V	-60
Minimum Emitter-Base Voltage	V_{EBO}	V	-6
Collector Current	I_C	A	-3
Power Dissipation（*）	P_D	W	0.65
Thermal Resistance From Junction To Ambient（*）	$R_{\theta JA}$	℃/W	192
Junction Temperature	T_j	℃	-55 to +150
Storage Temperature	T_{stg}	℃	-55 to +150

（*）Device mounted on FR4 P.C.B. with standard footprint.

■Electrical Characteristics (Ta=25℃ unless otherwise noted)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	V_{CBO}	V	I_C= -100uA, I_E=0	-60	-	-
Collector-emitter breakdown voltage	V_{CEO}	V	I_C = -10mA, I_B=0	-50	-	-
Emitter-base breakdown voltage	V_{EBO}	V	I_E= -100μA, I_C=0	-6	-	-
Collector-base cut-off current	I_{CBO}	nA	V_{CB}= -50V, I_E=0	-	-	-100
Emitter-base cut-off current	I_{EBO}	nA	V_{EB}= -5V, I_C=0	-	-	-100
DC current gain	h_{FE} 1		V_{CE}= -2V, I_C= -0.5A	200	-	-
	h_{FE} 2		V_{CE}= -2V, I_C= -1A	200	-	-
	h_{FE} 3		V_{CE}= -2V, I_C= -2A	100	-	-
Collector-emitter saturation voltage	$V_{CE(sat)}$	mV	I_C= -0.5A, I_B= -50mA	-	-	-100
			I_C= -1A, I_B= -50mA	-	-	-180
			I_C= -2A, I_B= -200mA	-	-	-300
Base-emitter saturation voltage	$V_{BE(sat)}$	V	I_C= -2A, I_B= -200mA	-	-	-1.2
Collector-emitter saturation resistance	$R_{CE(sat)}$	mΩ	I_C= -2A, I_B= -200mA	-	-	150
Base-emitter turn-on voltage	V_{BEon}	V	V_{CE}= -2V, I_C= -1A	-	-	-1.1
Output Capacitance	Cob	pF	V_{CB}= -10V, I_E=0, f=1MHz	-	30	-

■Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
PBSS5350ZQ	F2	Approximate 0.11	2500	5000	25000	13” reel

■Characteristics (Typical)

Fig. 1 - Static characteristic

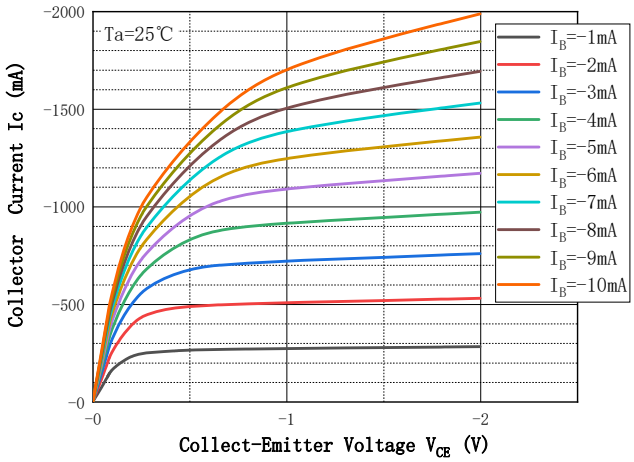


Fig. 2 - DC Current Gain

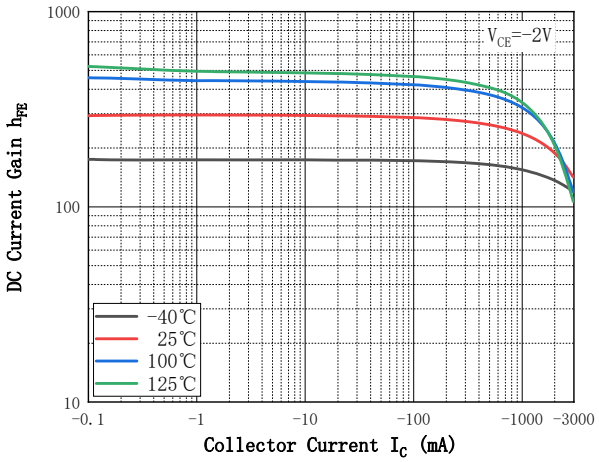


Fig. 3 - Collect-Emitter Saturation Voltage

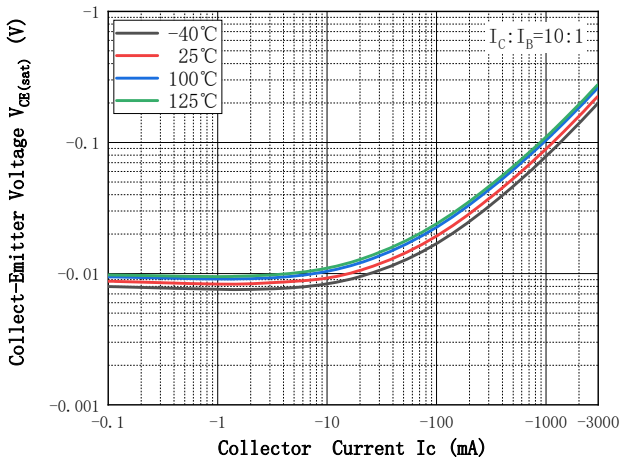


Fig. 4 - Collect-Emitter Saturation Voltage

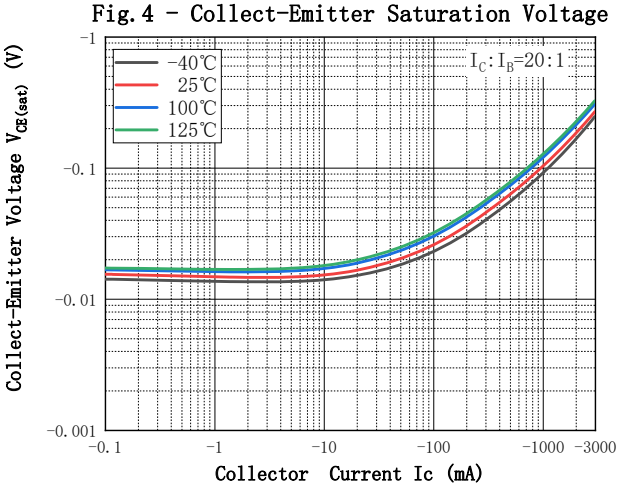


Fig. 5 - Base-Emitter Voltage

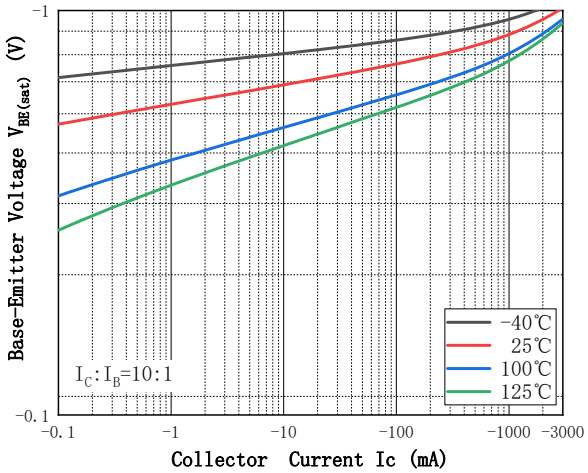


Fig. 6 - Base-Emitter Voltage

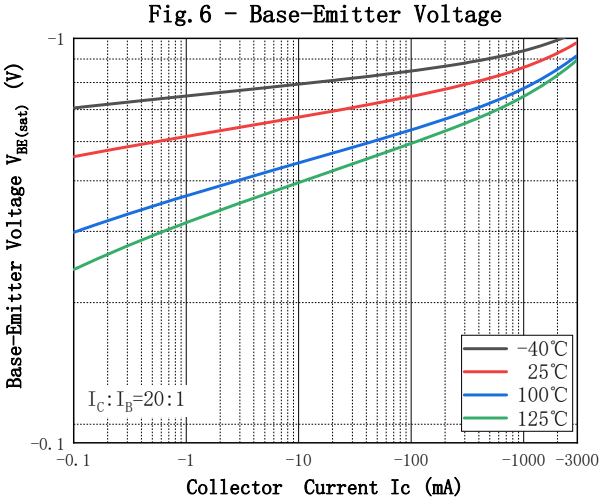


Fig. 7 - Base-Emitter On Voltage

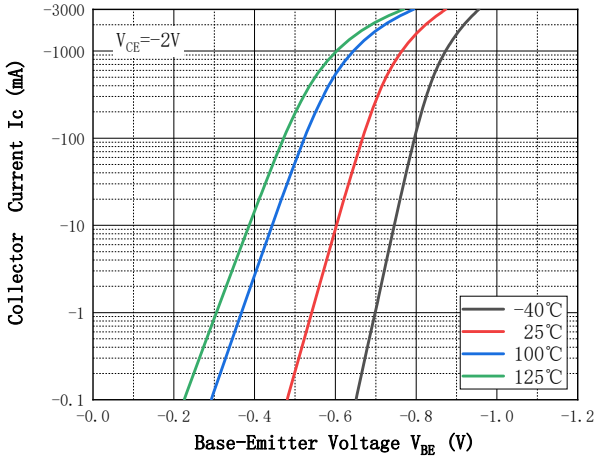


Fig. 8 - Cob/Cib—VCB/VEB

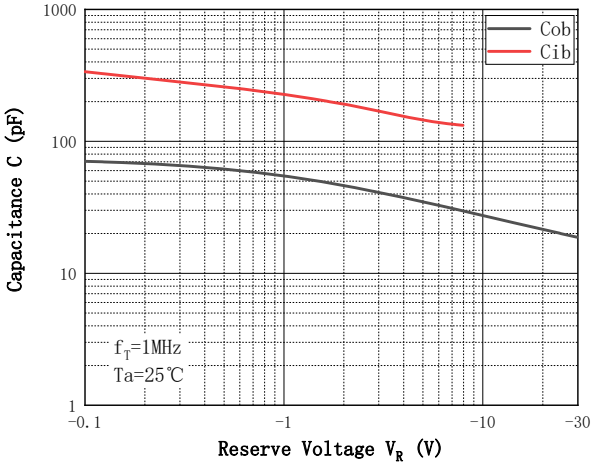
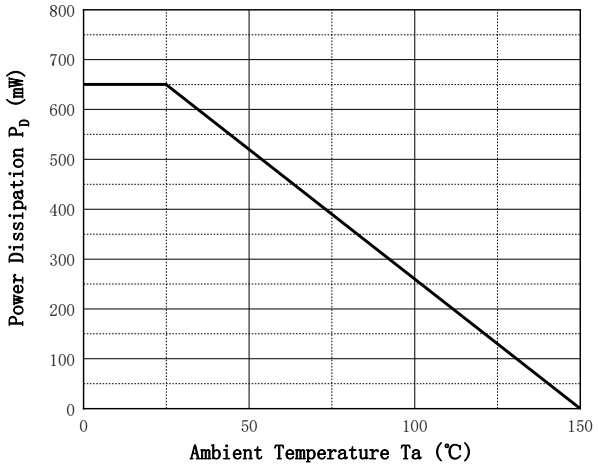
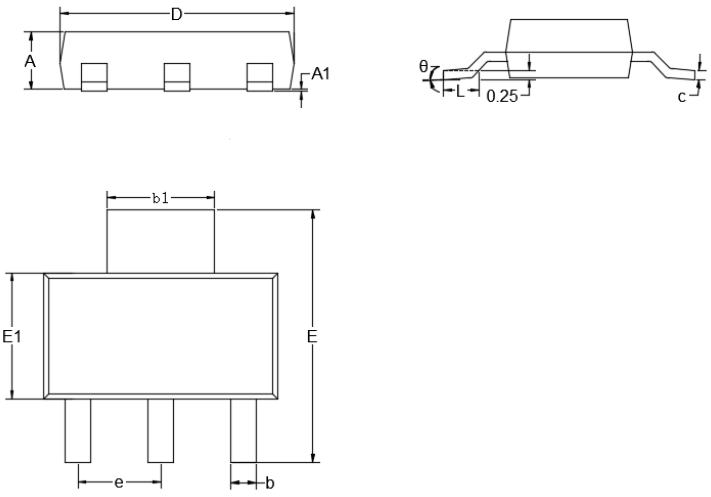


Fig. 9 - Power Derating Curve

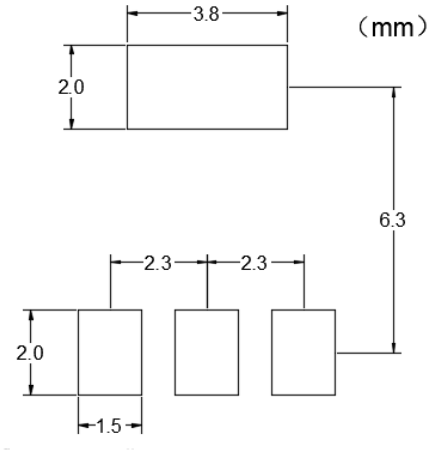


■SOT-223 Package Outline Dimensions



DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MN	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°

■SOT-223 Suggested Pad Layout



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