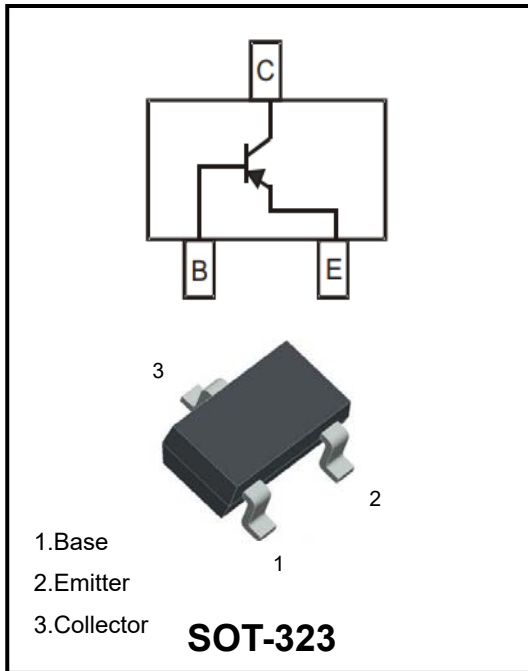


## PNP General Purpose Transistor



### Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- Part no. with suffix "Q" means AEC-Q101 qualified

### Applications

- General purpose switching and amplification

### Mechanical Data

- Package: SOT-323
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Marking: FR.

### ■Maximum Ratings (Ta=25°C unless otherwise noted)

Item	Symbol	Unit	Rating
Collector-Base Voltage	$V_{CBO}$	V	-60
Collector-Emitter Voltage	$V_{CEO}$	V	-50
Emitter-Base Voltage	$V_{EBO}$	V	-6
Collector Current	$I_C$	mA	-150
Collector Power Dissipation	$P_C$	mW	200
Thermal Resistance From Junction to Ambient (*)	$R_{\theta JA}$	°C/W	625
Junction Temperature	$T_j$	°C	150
Storage Temperature	$T_{stg}$	°C	-55 to +150

### ■Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
2SA1576A-RQ	F2	Approximate 0.005	3000	30000	120000	7" reel



■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-base breakdown voltage	V <sub>CBO</sub>	V	I <sub>C</sub> = -50μA, I <sub>E</sub> =0	-60		
Collector-emitter breakdown voltage	V <sub>CEO</sub>	V	I <sub>C</sub> = -1mA, I <sub>B</sub> =0	-50		
Emitter-base breakdown voltage	V <sub>EBO</sub>	V	I <sub>E</sub> = -50μA, I <sub>C</sub> =0	-6		
Collector-base cut-off current	I <sub>CBO</sub>	nA	V <sub>CB</sub> = -60V, I <sub>E</sub> =0			-100
Emitter-base cut-off current	I <sub>EBO</sub>	nA	V <sub>EB</sub> = -6V, I <sub>C</sub> =0			-100
DC current gain	h <sub>FE</sub>		V <sub>CE</sub> = -6V, I <sub>C</sub> = -1mA	180		390
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	V	I <sub>C</sub> = -50mA, I <sub>B</sub> = -5mA			-0.5
Output Capacitance	Cob	V	V <sub>CB</sub> = -12V, I <sub>E</sub> =0, f=1MHz		4	
Transition frequency	f <sub>T</sub>	MHz	V <sub>CE</sub> = -12V, I <sub>C</sub> = -2mA, f=100MHz		100	

■ Characteristics (Typical)

Fig.1 - Static characteristic

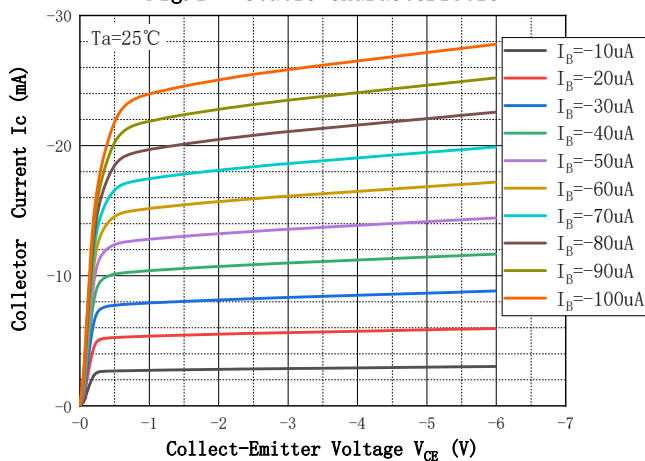


Fig.2 - DC Current Gain

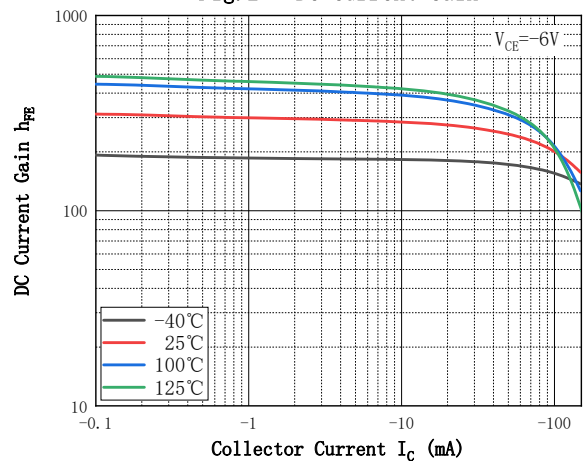


Fig.3 - Collect-Emitter Saturation Voltage

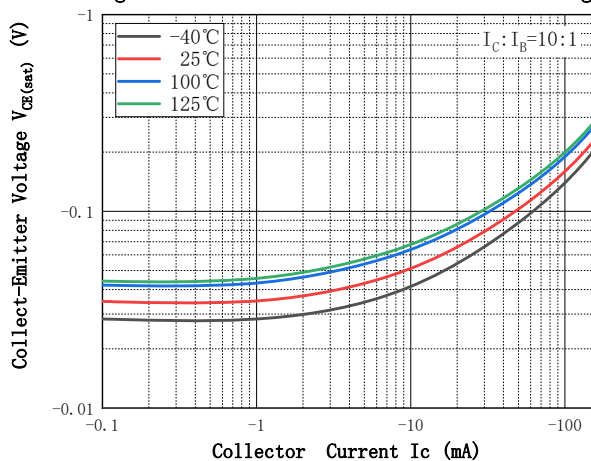


Fig.4 - Base-Emitter Voltage

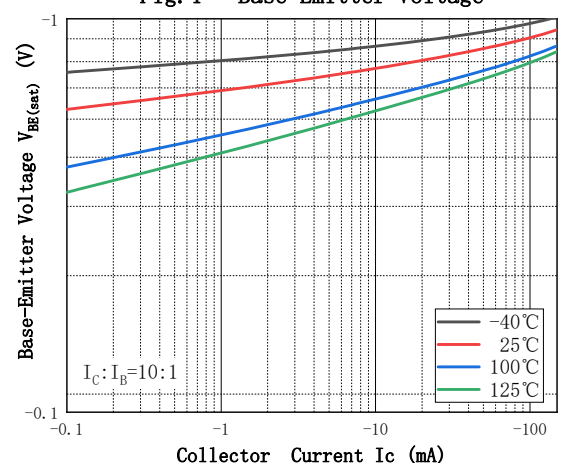


Fig. 5 - Base-Emitter On Voltage

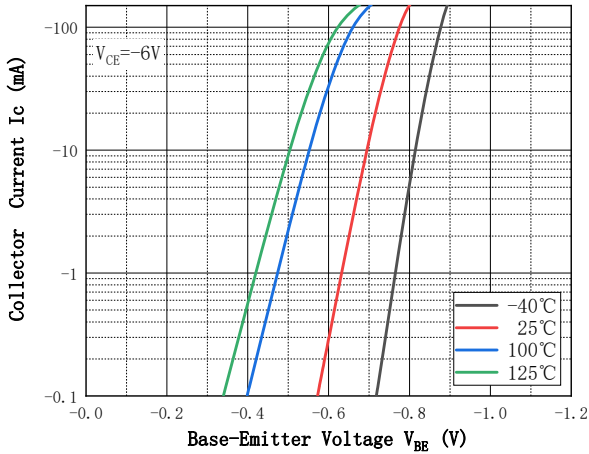
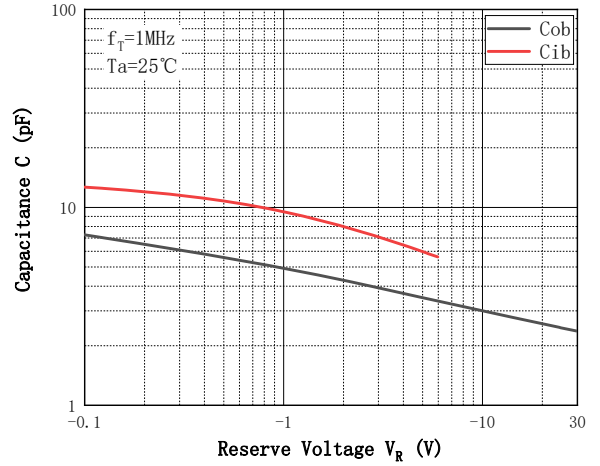
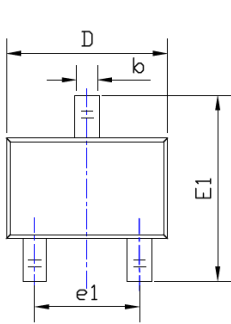


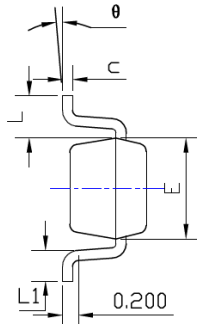
Fig. 6 - Cob/Cib—VCB/VEB



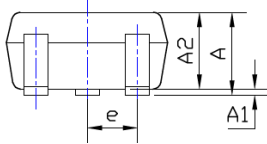
## ■ SOT-323 Package Outline Dimensions & Suggested Pad Layout



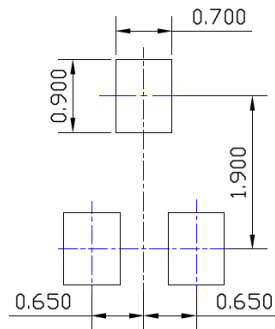
TOP VIEW



SIDE VIEW



SIDE VIEW



UNIT: mm

SUGGESTED SOLDER PAD LAYOUT

SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.043	0.900	1.100
A1	0.000	0.004	0.000	0.100
A2	0.035	0.039	0.900	1.000
b	0.006	0.016	0.150	0.400
c	0.004	0.010	0.100	0.250
D	0.071	0.087	1.800	2.200
E	0.045	0.053	1.150	1.350
E1	0.085	0.096	2.150	2.450
e	0.026TYP		0.650TYP	
e1	0.047	0.055	1.200	1.400
L	0.021REF		0.525REF	
L1	0.010	0.018	0.260	0.460
theta	0°	8°	0°	8°

**NOTE:**

- 1.PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
- 2.TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.
- 3.THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.



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