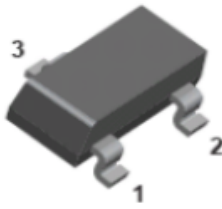
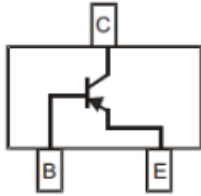


PNP Transistor



SOT-323

Features

- Moisture sensitivity level 1
- Halogen free and RoHS compliant
- Surface mount package ideally suited for automatic insertion

Application

- Signal amplification
- Switching circuit

Mechanical data

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

■ Maximum Ratings ($T_a=25^\circ\text{C}$ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Device marking code				LT
Collector-base voltage	V_{CBO}	V	$I_C=-100\mu\text{A}, I_E=0$	-30
Collector-emitter voltage	V_{CEO}	V	$I_C=-1\text{mA}, I_B=0$	-30
Emitter-base voltage	V_{EBO}	V	$I_E=-100\mu\text{A}, I_C=0$	-6
Collector current	I_C	A		-0.5
Power dissipation	P_D	mW		200
Operation junction temperature	T_J	$^\circ\text{C}$		-55 to +150
Storage temperature	T_{STG}	$^\circ\text{C}$		-55 to +150



2SAR502

RoHS
COMPLIANT

■ 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 =-100μA, I _E =0	-30		
Collector-emitter breakdown voltage	V _{(BR)CEO}	V	I _C =-1mA, I _B =0	-30		
Emitter-base breakdown voltage	V _{(BR)EBO}	V	I _E =-100μA, I _C =0	-6		
Collector-base cut-off current	I _{CBO}	nA	V _{CB} =-25V, I _E =0			-200
Emitter-base cut-off current	I _{EBO}	nA	V _{EB} =-4V, I _C =0			-200
DC current gain	h _{FE}		V _{CE} =-2V, I _C =-100mA	200		500
Collector-emitter saturation voltage	V _{CE(sat)}	V	I _C =-200mA, I _B =-10mA			-0.4
Transition frequency	f _T	MHz	V _{CE} =-5V, I _C =-10mA, f=100MHz	100		
Collector-base output capacitance	Cob	pF	V _{CB} =-10V, I _E =0, f=1MHz		4	

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	R _{θJ-A} ⁽¹⁾	°C/W	625
Thermal resistance, junction-to-case	R _{θJ-C} ⁽¹⁾	°C/W	500

Note:

(1) Device mounted on PCB, single-sided copper, with standard footprint



■ Characteristics

Fig 1: Static Characteristics

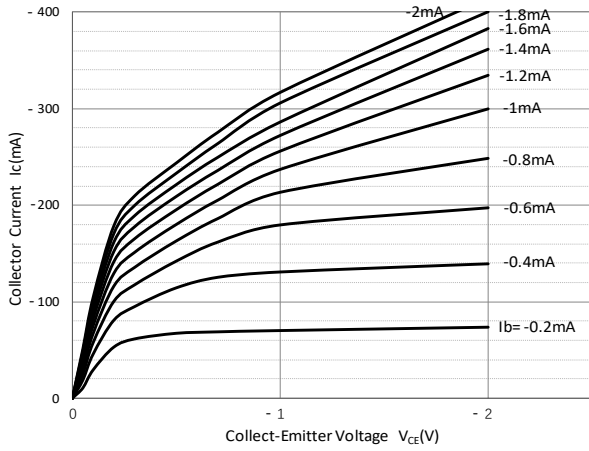


Fig 2: DC Current Gain

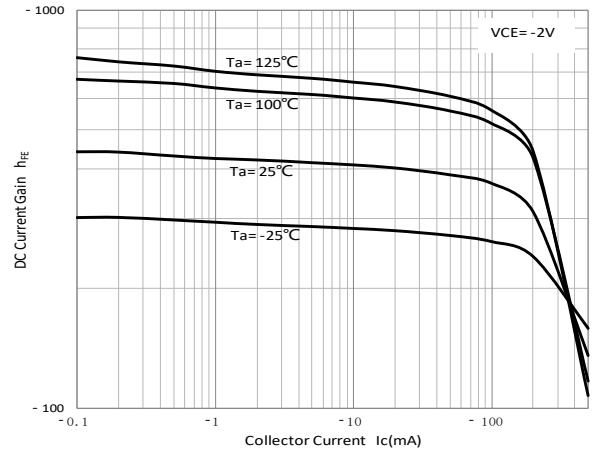


Fig 3: Collector-Emittor Saturation Voltage

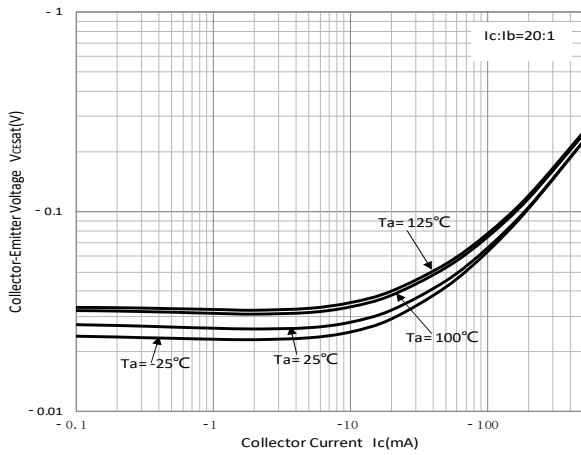


Fig 4: Base-Emittor Saturation Voltage

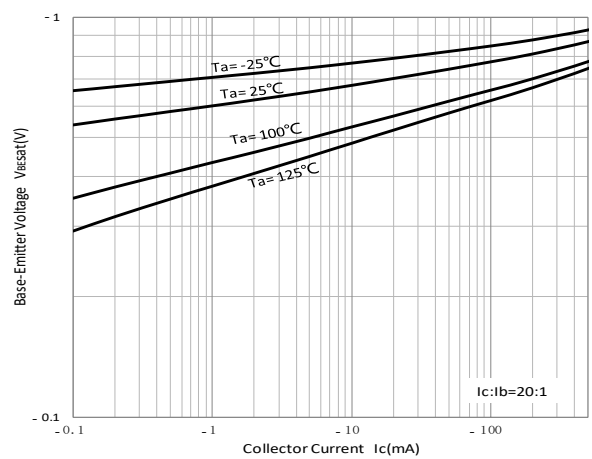


Fig 5: Base-Emittor On Voltage

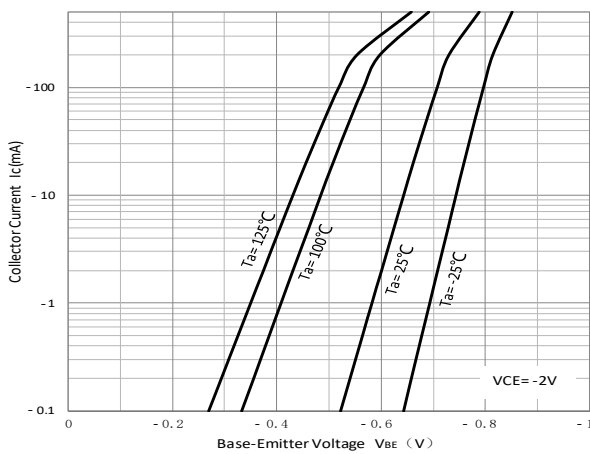


Fig 6: Cob/Cib- V_{CB}/V_{EB}

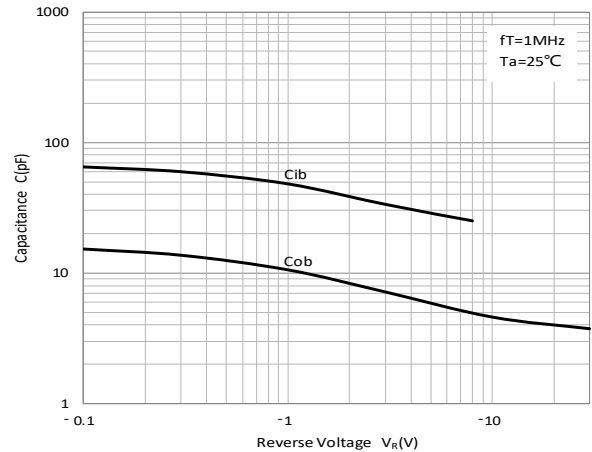
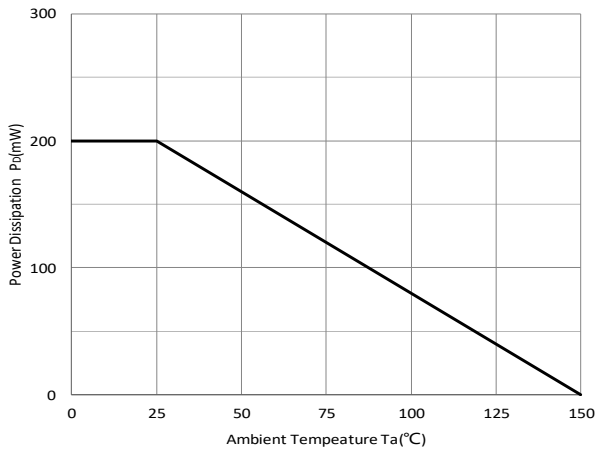




Fig 7: P_D - T_a Curve





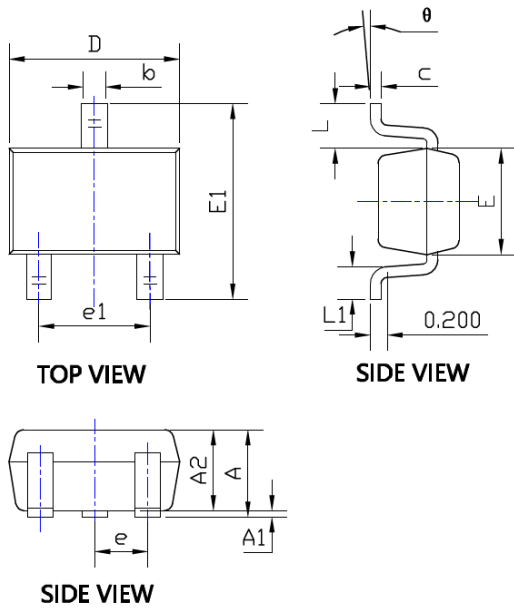
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Ordering Information

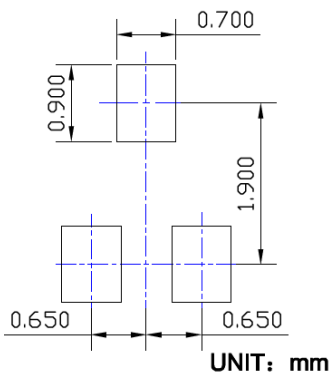
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
2SAR502	F2	Approximate 0.005	3000	30000	120000	7" reel

Outline Dimensions



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
θ	0°	8°	0°	8°

Suggested Pad Layout





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