

**DESCRIPTION**

The 2SB624-V1, 2SB624-V2, 2SB624-V3, 2SB624-V4 and 2SB624-V5 are available in the SOT-23 package.

ORDERING INFORMATION

Package Type	Part Number
SOT-23	2SB624-V1
	2SB624-V2
	2SB624-V3
	2SB624-V4
	2SB624-V5
SPQ	3,000pcs/Reel
AiT provides all RoHS Compliant Products	

 h_{FE} CLASSIFICATION

Rank	Range
V1	110 ~ 180
V2	135 ~ 220
V3	170 ~ 270
V4	200 ~ 320
V5	250 ~ 400

ABSOLUTE MAXIMUM RATINGS

$T_A = 25^{\circ}\text{C}$, unless otherwise specified.

V_{CBO} , Collector-Base Voltage	-30 V
V_{CEO} , Collector-Emitter Voltage	-25 V
V_{EBO} , Emitter-Base Voltage	-5 V
I_C , Collector Current-Continuous	-700 mA
P_C , Collector Dissipation	200 mW
T_J , Junction Temperature	150 $^{\circ}\text{C}$
T_{stg} , Storage Temperature	-55 ~ 150 $^{\circ}\text{C}$

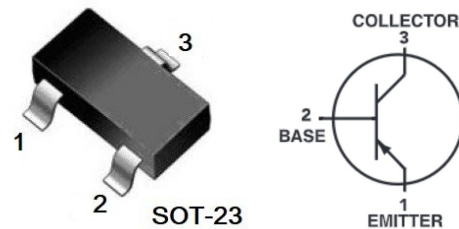
Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

FEATURE

- Micro package.
- High DC current gain.
 $h_{FE} : 200\text{TYP} (V_{CE} = -1.0\text{ V}, I_C = -100\text{ mA})$
- Complimentary to 2SD596

APPLICATION

- For switching and amplifier applications.

PIN DESCRIPTION

PIN#	DESCRIPTION
1	Base
2	Emitter
3	Collector



ELECTRICAL CHARACTERISTICS

$T_A=25^\circ\text{C}$ unless otherwise specified.

Parameter	Symbols	Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -100\ \mu\text{A}$, $I_E = 0$	-30	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1\ \text{mA}$, $I_B = 0$	-25	-	-	V
Collector-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -100\ \mu\text{A}$, $I_C = 0$	-5	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -30\ \text{V}$, $I_E = 0$	-	-	-0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -5\ \text{V}$, $I_C = 0$	-	-	-0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = -1\ \text{V}$, $I_C = -100\ \text{mA}$	110	200	400	-
		$V_{CE} = -1\ \text{V}$, $I_C = -700\ \text{mA}$	50	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -700\ \text{mA}$, $I_B = -70\ \text{mA}$	-	-	-0.6	V
Base-Emitter Voltage	V_{BE}	$V_{CE} = -6\ \text{V}$, $I_C = -10\ \text{mA}$	-0.6	-	-0.8	V
Transition Frequency	f_T	$V_{CE} = -6\ \text{V}$, $I_E = -10\ \text{mA}$	-	160	-	MHz
Output capacitance	C_{ob}	$V_{CB} = -6\ \text{V}$, $I_E = 0$ $f = 1\ \text{MHz}$	-	17	-	pF

TYPICAL CHARACTERISTICS

Fig 1. Static Characteristic

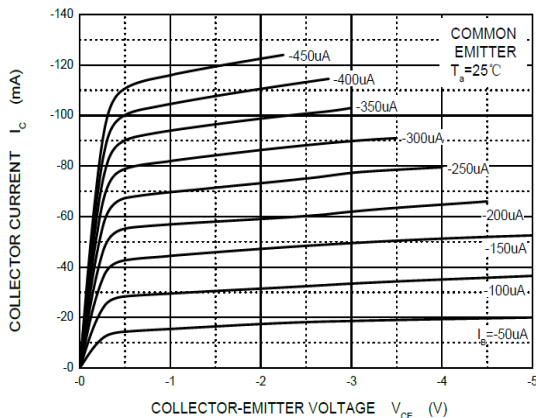


Fig 2. $h_{FE} - I_C$

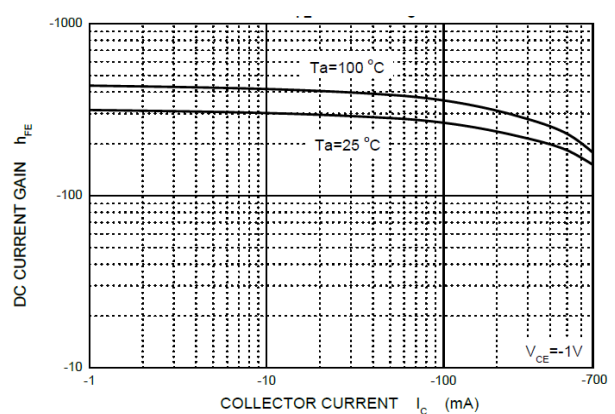




Fig 3. $V_{CE(sat)} - I_C$

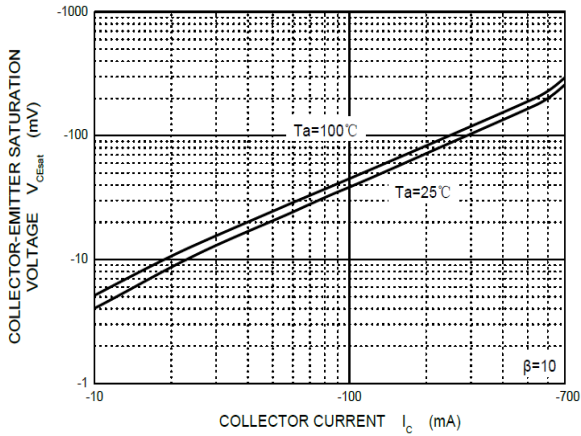


Fig 4. $V_{BE(sat)} - I_C$

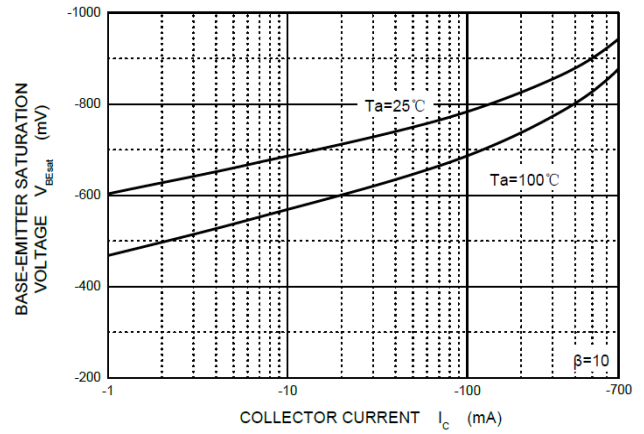


Fig 5. $V_{BE} - I_C$

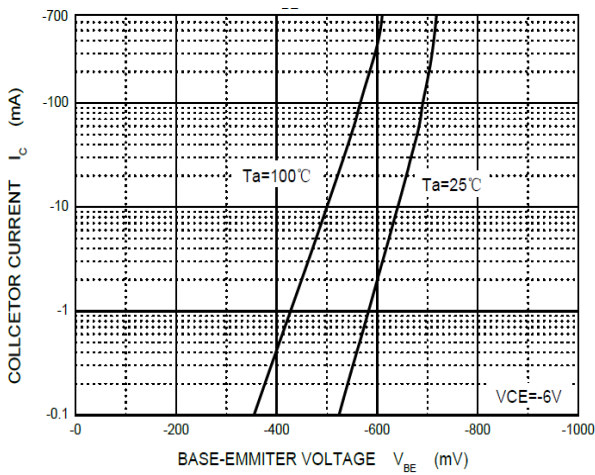


Fig 6. $C_{ob}/C_{ib} - V_{CB}/V_{EB}$

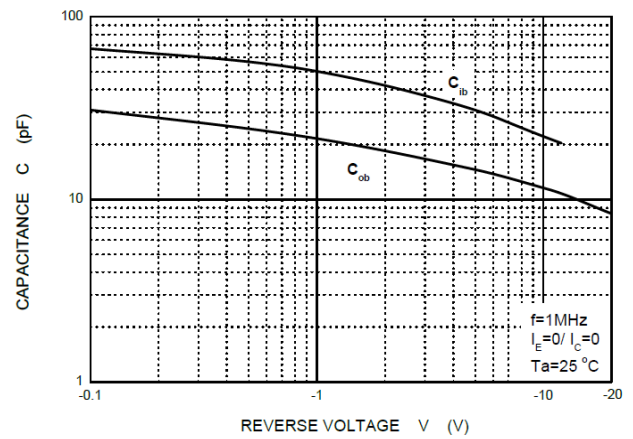


Fig 7. $f_T - I_C$

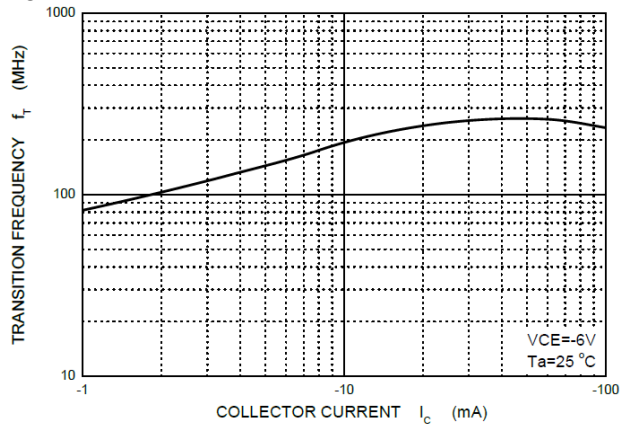
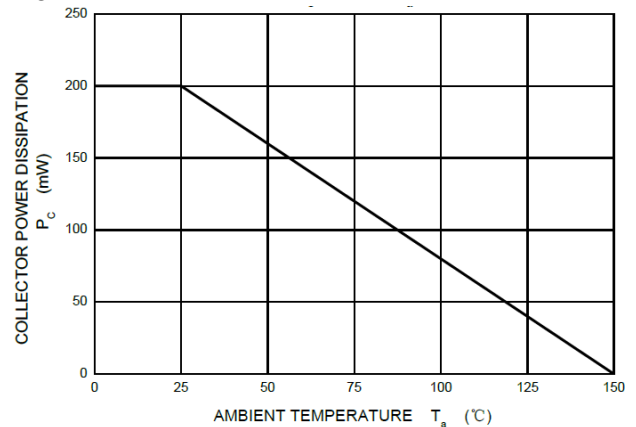


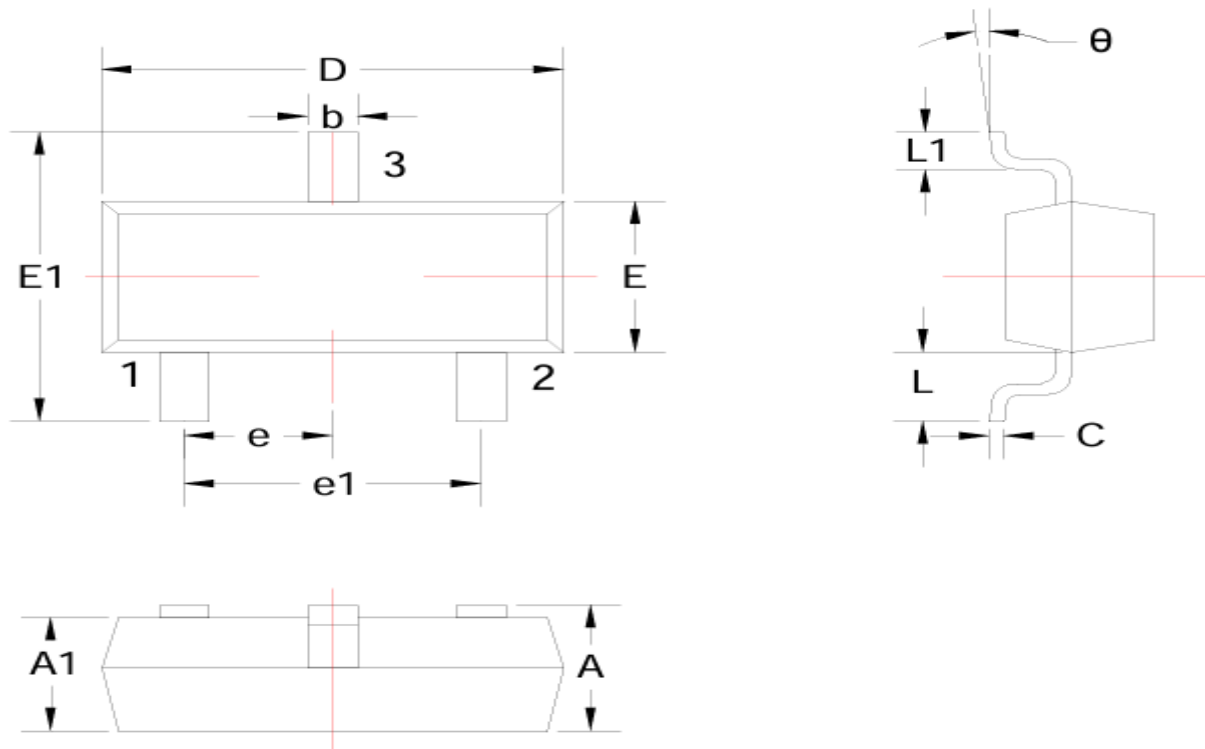
Fig 8. $P_C - T_a$





PACKAGE INFORMATION

Dimension in SOT-23 (Unit: mm)



Symbol	Millimeter	
	Min.	Max.
A	0.900	1.150
A1	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950 TYP.	
e1	1.800	2.000
L	0.550 REF	
L1	0.300	0.500
θ	0°	8°

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