

**DESCRIPTION**

The 2SD1624-R, 2SD1624-S, 2SD1624-T and 2SD1624-U are available in the SOT-89 package.

ORDERING INFORMATION

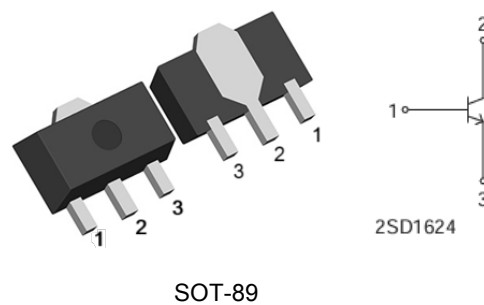
Package Type	Part Number
SOT-89	2SD1624-R
	2SD1624-S
	2SD1624-T
	2SD1624-U
SPQ	1,000pcs/Reel
AiT provides all RoHS Compliant Products	

 h_{FE} CLASSIFICATION

Rank	Range
R	100 ~ 200
S	140 ~ 280
T	200 ~ 400
U	280 ~ 560

FEATURE

- Power dissipation.
- Plastic-Encapsulate Transistors (NPN).
- Fast switching speed.

PIN DESCRIPTION

PIN#	DESCRIPTION
1	Base
2	Collector
3	Emitter

ABSOLUTE MAXIMUM RATINGS

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

V_{CBO} , Collector to Base Voltage	40 V
V_{CEO} , Collector to Emitter Voltage	50 V
V_{EBO} , Emitter to Base Voltage	6 V
I_C , Collector Current-Continuous	3 A
P_C , Collector Dissipation	1.25 W
T_J , Junction Temperature	150 °C
T_{stg} , Storage Temperature	-55 ~ +150 °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.

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

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Collector-Emitter Breakdown voltage	$V_{(BR)CEO}$	$I_C = 10\text{ mA},$ $I_B = 0$	50	-	-	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100\text{ }\mu\text{A},$ $I_E = 0$	40	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 100\text{ }\mu\text{A},$ $I_C = 0$	6	-	-	V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 40\text{ V},$ $I_E = 0$	-	-	1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 6\text{ V},$ $I_C = 0$	-	-	1	μA
Collector Cutoff Current	I_{CEO}	$V_{CB} = 30\text{ V},$ $I_B = 0$	-	-	10	μA
DC Current Gain	h_{FE}	$V_{CE} = 2\text{ V},$ $I_C = 1\text{ A}$	60	-	400	-
		$V_{CE} = 2\text{ V},$ $I_C = 100\text{ mA}$	32	-	-	
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C = 2\text{ A},$ $I_B = 2\text{ A}$	-	-	0.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 2\text{ A},$ $I_B = 2\text{ A}$	-	-	2	V
Transition Frequency	f_T	$V_{CE} = 5\text{ V},$ $I_E = 0.1\text{ A}$ $f = 10\text{ MHz}$	50	-	-	MHz



TYPICAL CHARACTERISTICS

Fig 1. Static Characteristic

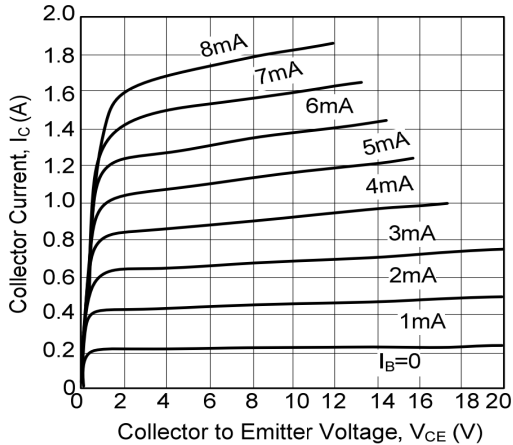


Fig 2. DC Current Gain vs. Collector Current

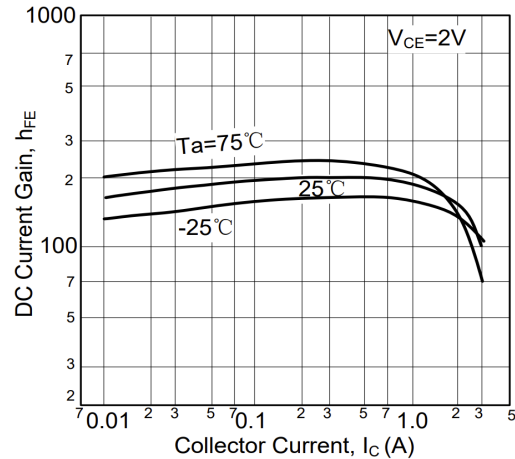


Fig 3. Base-Emitter Saturation Voltage vs. Collector Current

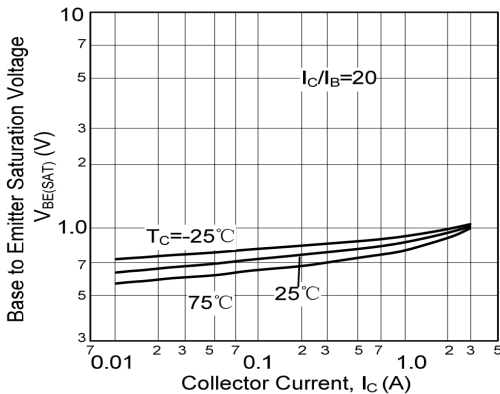


Fig 4. Collector Output Capacitance

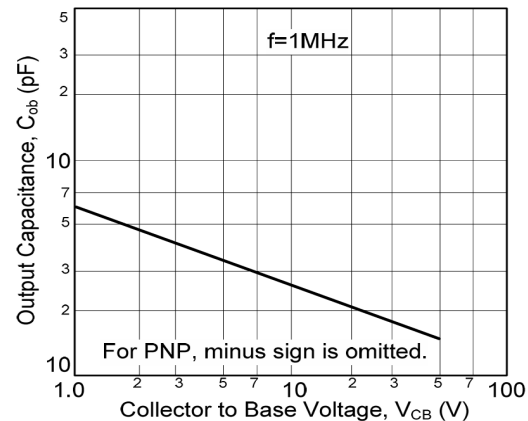


Fig 5. Collector to Emitter Saturation Voltage vs. Collector Current

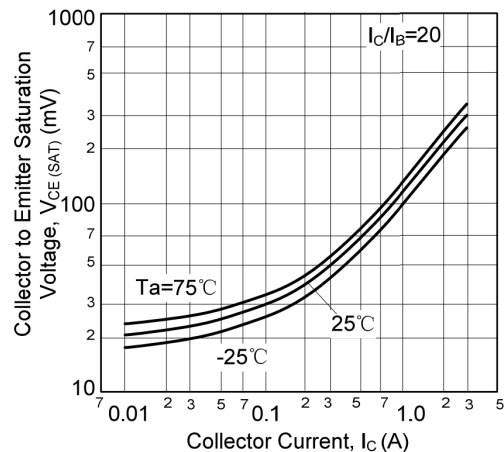
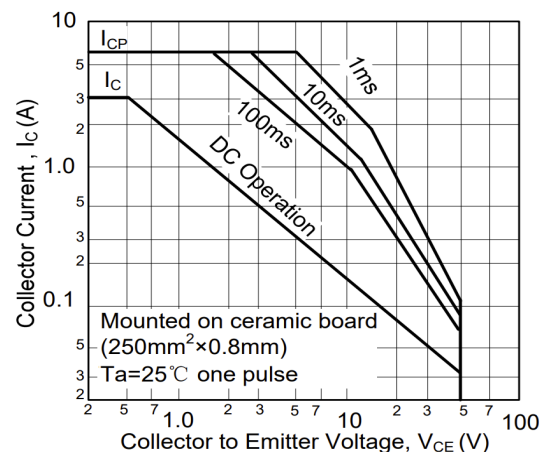
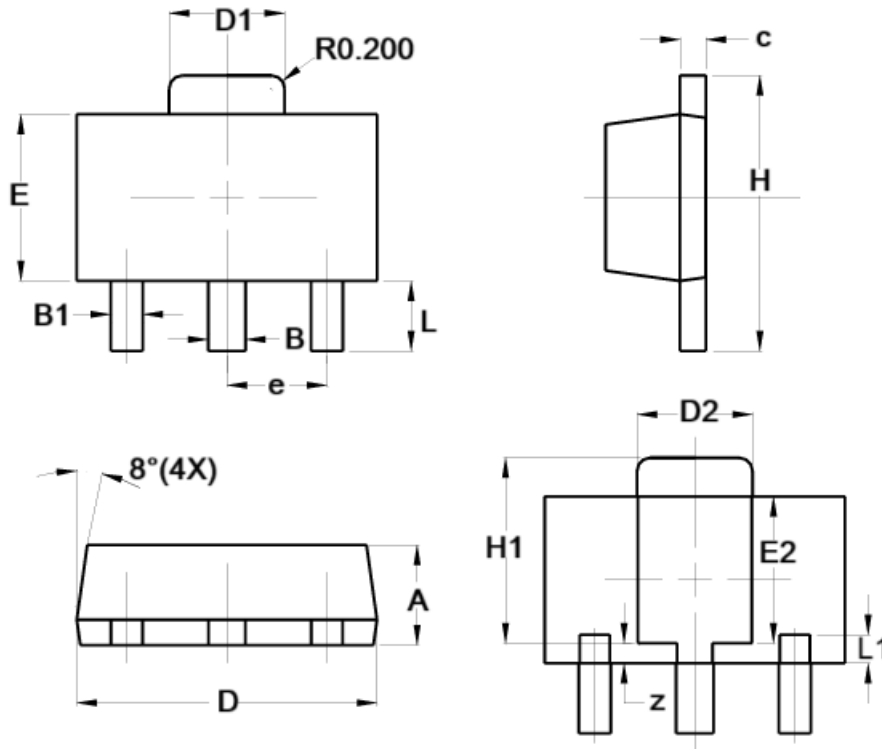


Fig 6. ASO.



**PACKAGE INFORMATION**

Dimension in SOT-89 (Unit: mm)



Symbol	Millimeter	
	Min.	Max.
A	1.400	1.600
B	0.500	0.620
B1	0.420	0.540
c	0.350	0.430
D	4.440	4.600
D1	1.620	1.830
D2	1.610	1.810
E	2.400	2.600
E2	2.050	2.350
e	1.500 TYP.	
H	3.950	4.250
H1	2.630	2.930
L	0.900	1.200
L1	0.327	0.527
z	0.200	0.400

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