

# 2SD2374, 2SD2374A

## Silicon NPN triple diffusion planar type

For power amplification

Complementary to 2SB1548 and 2SB1548A

### ■ Features

- High forward current transfer ratio  $h_{FE}$  which has satisfactory linearity
- Low collector to emitter saturation voltage  $V_{CE(sat)}$
- Full-pack package which can be installed to the heat sink with one screw

### ■ Absolute Maximum Ratings $T_C = 25^\circ\text{C}$

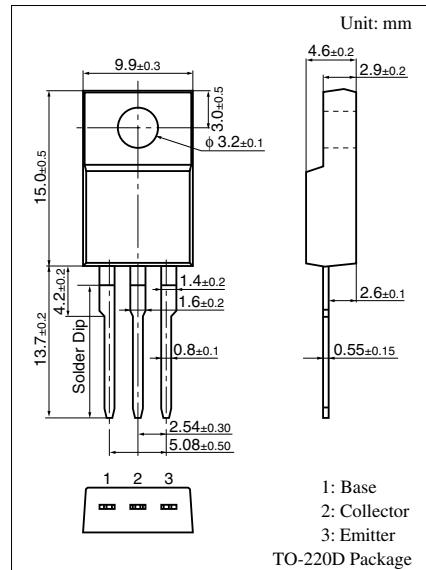
Parameter	Symbol	Rating	Unit
Collector to base voltage	$V_{CBO}$	60	V
2SD2374A	2SD2374A	80	
Collector to emitter voltage	$V_{CEO}$	60	V
2SD2374A	2SD2374A	80	
Emitter to base voltage	$V_{EBO}$	6	V
Peak collector current	$I_{CP}$	5	A
Collector current	$I_C$	3	A
Collector power dissipation	$P_C$	25	W
$T_a = 25^\circ\text{C}$	2SD2374	2	
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

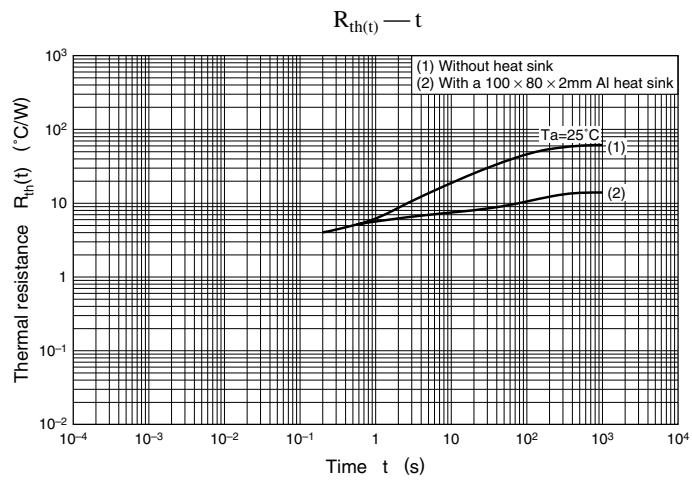
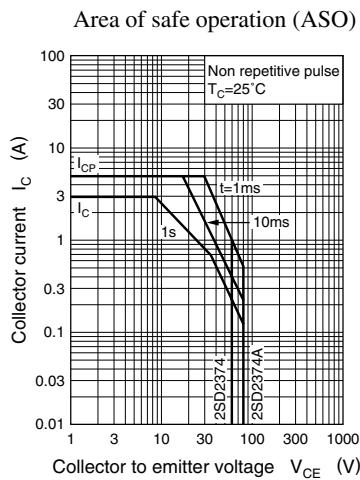
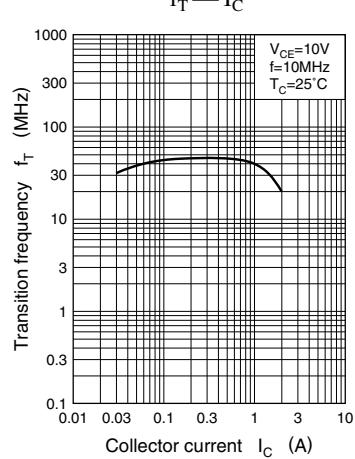
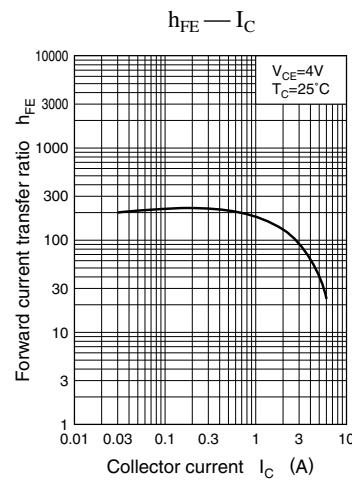
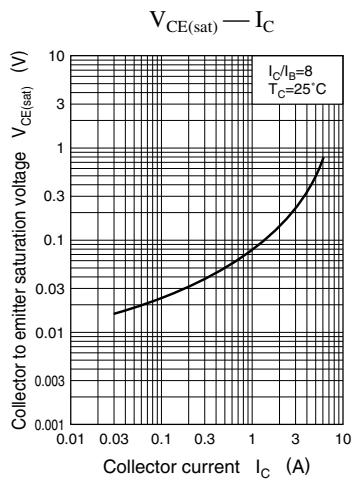
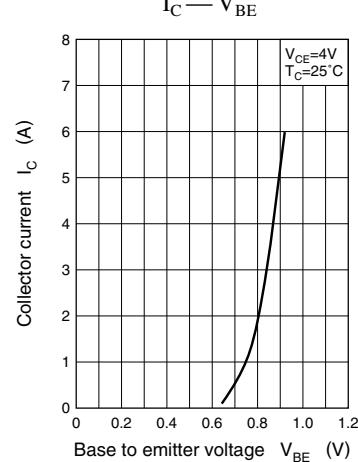
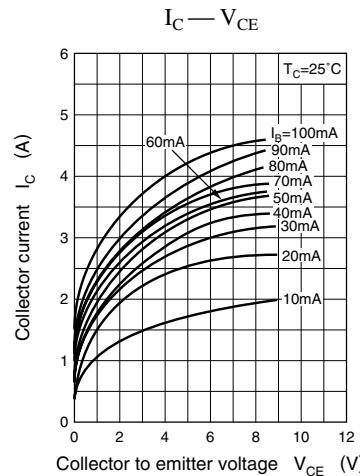
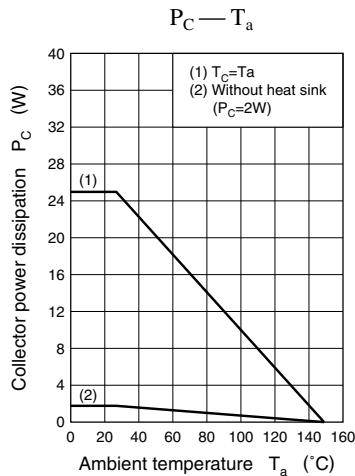
### ■ Electrical Characteristics $T_C = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	$I_{CES}$	$V_{CE} = 60 \text{ V}, V_{BE} = 0$			200	$\mu\text{A}$
2SD2374A		$V_{CE} = 80 \text{ V}, V_{BE} = 0$			200	
Emitter cutoff current	$I_{CEO}$	$V_{CE} = 30 \text{ V}, I_B = 0$			300	$\mu\text{A}$
2SD2374A		$V_{CE} = 60 \text{ V}, I_B = 0$			300	
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 6 \text{ V}, I_C = 0$			1	mA
Collector to emitter voltage	$V_{CEO}$	$I_C = 30 \text{ mA}, I_B = 0$	60			V
Forward current transfer ratio	$h_{FE1}$ *	$V_{CE} = 4 \text{ V}, I_C = 1 \text{ A}$	70		250	
2SD2374A	$h_{FE2}$	$V_{CE} = 4 \text{ V}, I_C = 3 \text{ A}$	10			
Base to emitter voltage	$V_{BE}$	$V_{CE} = 4 \text{ V}, I_C = 3 \text{ A}$			1.8	V
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 3 \text{ A}, I_B = 0.375 \text{ A}$			1.2	V
Transition frequency	$f_T$	$V_{CE} = 10 \text{ V}, I_C = 0.5 \text{ A}, f = 10 \text{ MHz}$		30		MHz
Turn-on time	$t_{on}$	$I_C = 1 \text{ A}, I_{B1} = 0.1 \text{ A}, I_{B2} = -0.1 \text{ A}, V_{CC} = 50 \text{ V}$		0.5		$\mu\text{s}$
Storage time	$t_{stg}$			2.5		$\mu\text{s}$
Fall time	$t_f$			0.4		$\mu\text{s}$

Note) \*: Rank classification

Rank	Q	P
$h_{FE1}$	70 to 150	120 to 250





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