

2SA2004

Silicon PNP epitaxial planar type

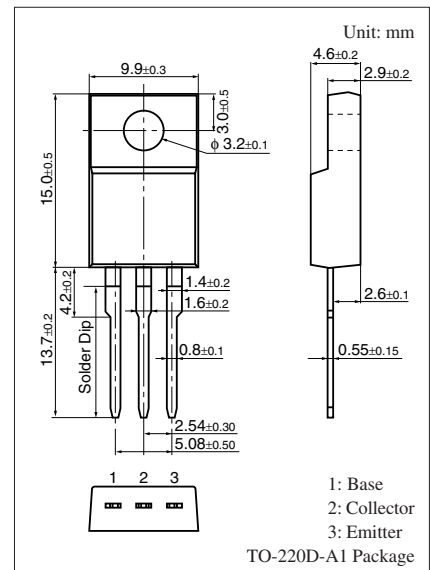
For power amplification

■ Features

- High forward current transfer ratio h_{FE}
- Satisfactory linearity of forward current transfer ratio h_{FE}
- Dielectric breakdown voltage of the package: > 5 kV
- High-speed switching

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	-60	V
Collector-emitter voltage (Base open)	V_{CEO}	-60	V
Emitter-base voltage (Collector open)	V_{EBO}	-5	V
Collector current	I_C	-8	A
Peak collector current	I_{CP}	-16	A
Collector power dissipation	$T_C = 25^\circ\text{C}$	P_C	20
			2.0
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

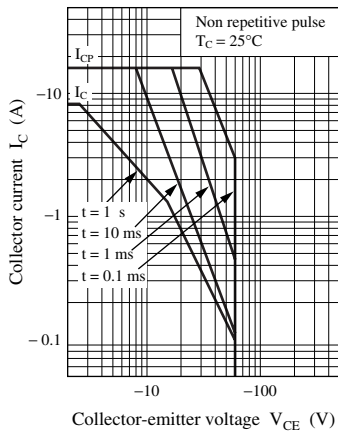


■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

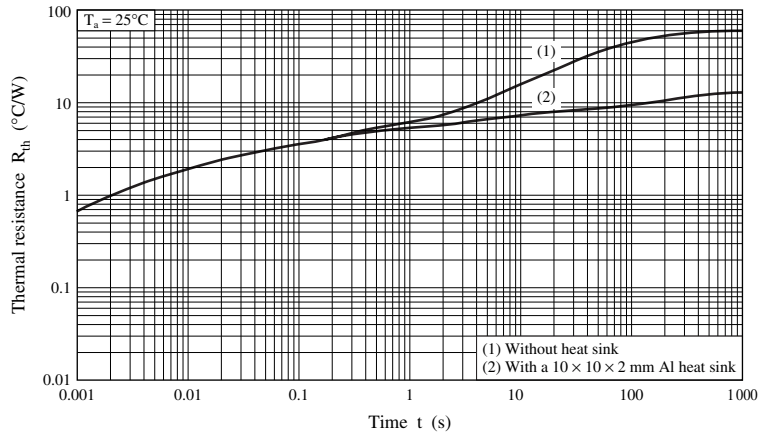
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = -10 \text{ mA}, I_B = 0$	-60			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = -60 \text{ V}, I_E = 0$			-100	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = -60 \text{ V}, I_B = 0$			-100	μA
Forward current transfer ratio	h_{FE1}	$V_{CE} = -2 \text{ V}, I_C = -0.1 \text{ A}$	100		230	—
	h_{FE2}	$V_{CE} = -2 \text{ V}, I_C = -5 \text{ V}$	30			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -5 \text{ A}, I_B = -0.25 \text{ A}$			-1.2	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -5 \text{ A}, I_B = -0.25 \text{ A}$			-1.7	V
Turn-on time	t_{on}	$I_C = -4 \text{ A}$		0.2	0.5	μs
Storage temperature	t_{stg}	$I_{B1} = -400 \text{ mA}, I_{B2} = 400 \text{ mA}$		0.10	0.15	μs
Fall time	t_f	$V_{CC} = -50 \text{ V}$		0.5	1.0	μs

Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

Safe operation area



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