

# 2SC4545

## Silicon NPN epitaxial planar type

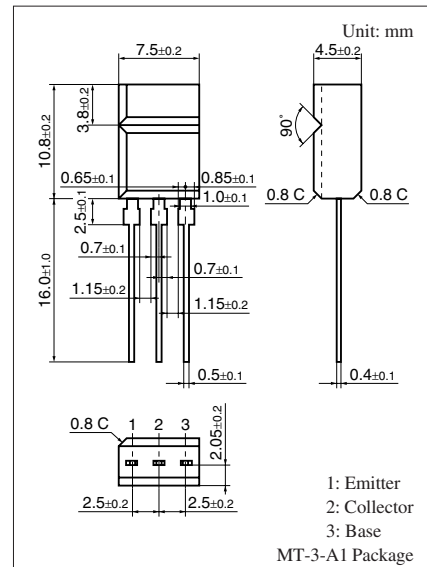
For medium output power amplification

### ■ Features

- Allowing supply with the radial taping

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	$V_{\text{CBO}}$	50	V
Collector-emitter voltage (Base open)	$V_{\text{CEO}}$	40	V
Emitter-base voltage (Collector open)	$V_{\text{EBO}}$	5	V
Collector current	$I_{\text{C}}$	1.5	A
Peak collector current	$I_{\text{CP}}$	3	A
Collector power dissipation	$P_{\text{C}}$	1.5	W
Junction temperature	$T_{\text{j}}$	150	$^\circ\text{C}$
Storage temperature	$T_{\text{stg}}$	-55 to +150	$^\circ\text{C}$



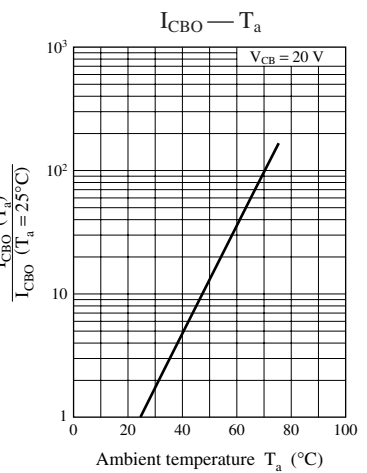
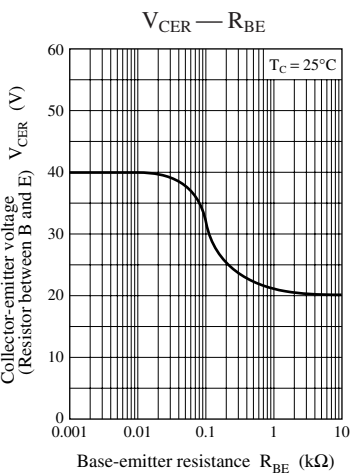
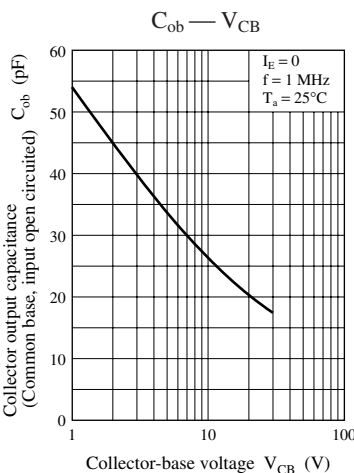
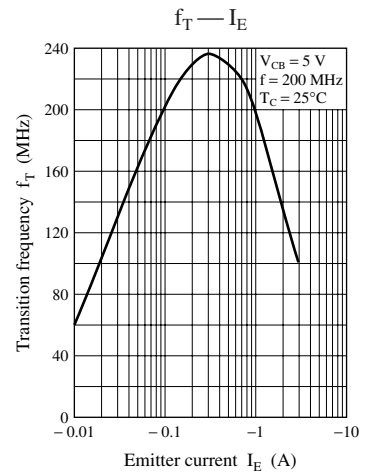
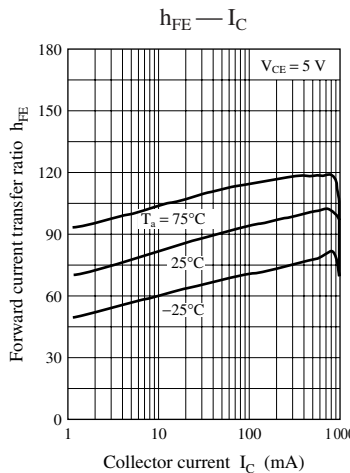
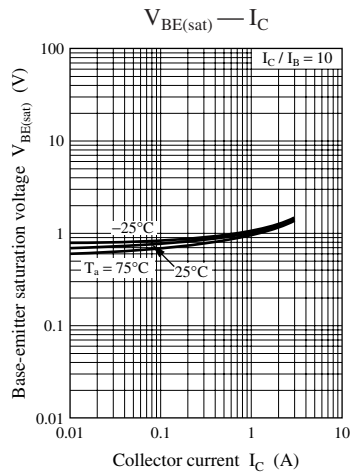
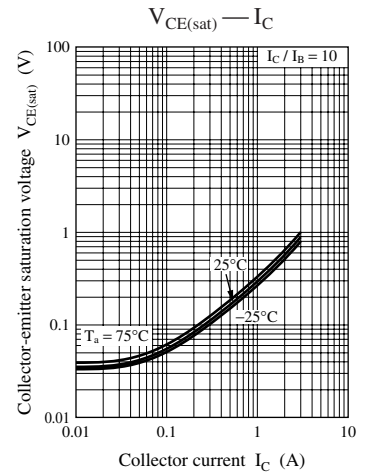
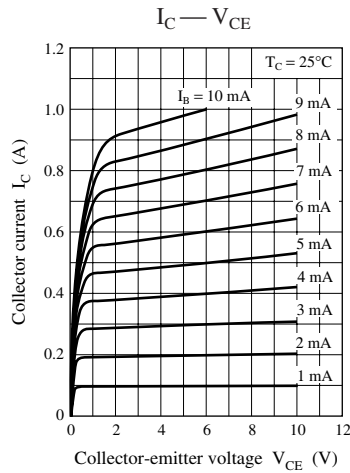
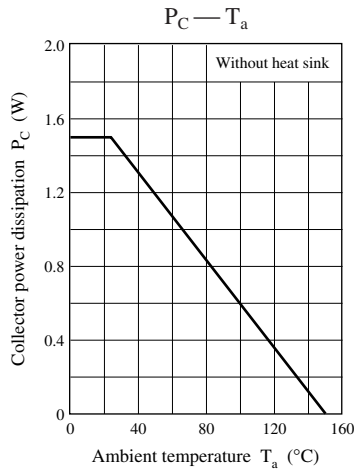
### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	$V_{\text{CBO}}$	$I_{\text{C}} = 1 \text{ mA}, I_{\text{E}} = 0$	50			V
Collector-emitter voltage (Base open)	$V_{\text{CEO}}$	$I_{\text{C}} = 2 \text{ mA}, I_{\text{B}} = 0$	40			V
Collector-base cutoff current (Emitter open)	$I_{\text{CBO}}$	$V_{\text{CB}} = 20 \text{ V}, I_{\text{E}} = 0$			1	$\mu\text{A}$
Collector-emitter cutoff current (Base open)	$I_{\text{CEO}}$	$V_{\text{CE}} = 10 \text{ V}, I_{\text{B}} = 0$			100	$\mu\text{A}$
Emitter-base cutoff current (Collector open)	$I_{\text{EBO}}$	$V_{\text{EB}} = 5 \text{ V}, I_{\text{C}} = 0$			10	$\mu\text{A}$
Forward current transfer ratio *	$h_{\text{FE}}$	$V_{\text{CE}} = 5 \text{ V}, I_{\text{C}} = 1 \text{ A}$	50		220	—
Collector-emitter saturation voltage	$V_{\text{CE(sat)}}$	$I_{\text{C}} = 2 \text{ A}, I_{\text{B}} = 0.2 \text{ A}$			1	V
Base-emitter saturation voltage	$V_{\text{BE(sat)}}$	$I_{\text{C}} = 2 \text{ A}, I_{\text{B}} = 0.2 \text{ A}$			1.5	V
Transition frequency	$f_{\text{T}}$	$V_{\text{CB}} = 5 \text{ V}, I_{\text{E}} = -0.5 \text{ A}, f = 200 \text{ MHz}$		150		MHz
Collector output capacitance (Common base, input open circuited)	$C_{\text{ob}}$	$V_{\text{CB}} = 20 \text{ V}, I_{\text{E}} = 0, f = 1 \text{ MHz}$		35		pF

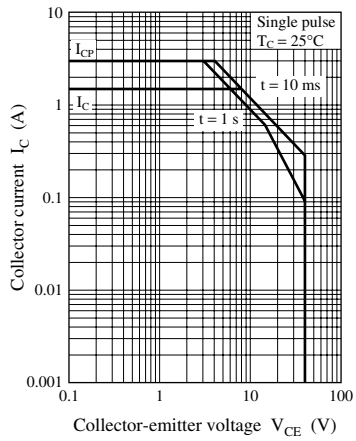
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. \*: Rank classification

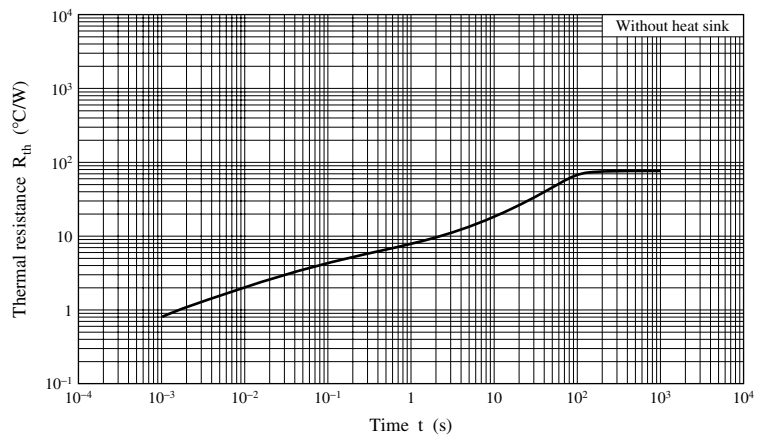
Rank	P	Q	R
$h_{\text{FE}}$	50 to 100	80 to 160	120 to 220



Safe operation area



$R_{th} - t$



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