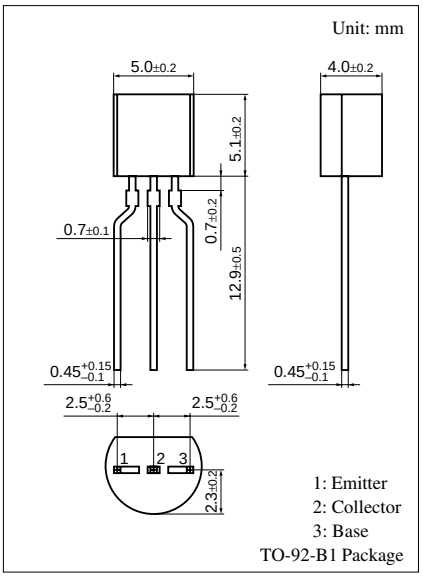
2SD2504

Silicon NPN epitaxial planer type

For low-frequency power amplification



Marking Symbol: 3C

■ Features

- Low collector to emitter saturation voltage $V_{CE(sat)}$
- Large collector current I_C

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	15	V
Collector to emitter voltage	V_{CEO}	10	V
Emitter to base voltage	V_{EBO}	10	V
Peak collector current *	I_{CP}	9	A
Collector current	I_C	5	A
Collector power dissipation	P_C	750	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

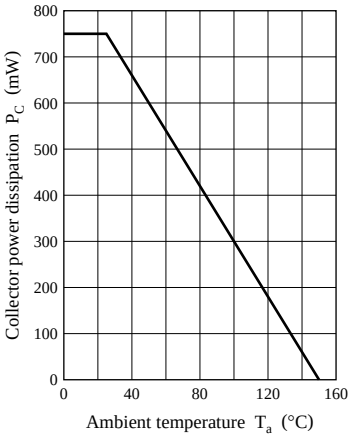
Note) ∗: t = 380 µsec

■ Electrical Characteristics $T_a = 25°C \pm 3°C$

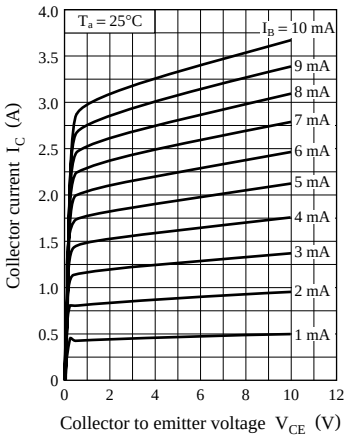
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 10 V, I_E = 0			0.1	µA
	I_{CEO}	V_{CE} = 5 V, I_B = 0			1.0	
Emitter cutoff current	I_{EBO}	V_{EB} = 5 V, I_C = 0			0.1	µA
Collector to emitter voltage	V_{CEO}	I_C = 1 mA, I_B = 0	10			V
Emitter to base voltage	V_{EBO}	I_E = 10 µA, I_C = 0	10			V
Forward current transfer ratio *	h_{FE1}	V_{CE} = 2 V, I_C = 0.5 A	300		800	
	h_{FE2}	V_{CE} = 2 V, I_C = 2 A	195			
Collector to emitter saturation voltage *	$V_{CE(sat)}$	I_C = 3 A, I_B = 0.1 A		0.28	0.5	V
Collector output capacitance	C_{ob}	V_{CB} = 20 V, I_E = 0, f = 1 MHz		45	65	pF
Transition frequency	f_T	V_{CB} = 6 V, I_E = −50 mA, f = 200 MHz		170		MHz

Note) ∗: Pulse measurement

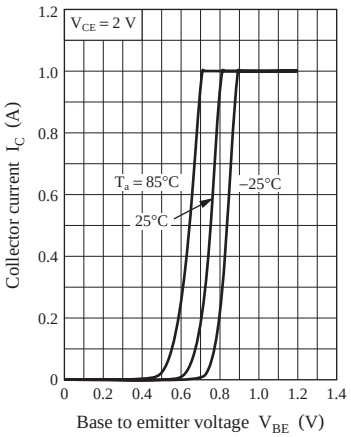
P_C — T_a



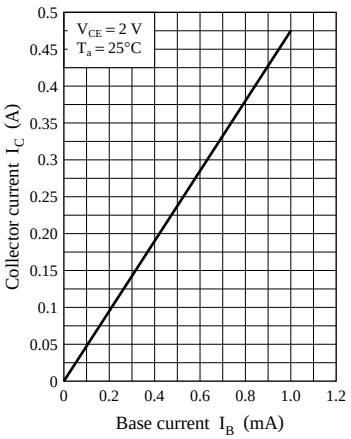
I_C — V_{CE}



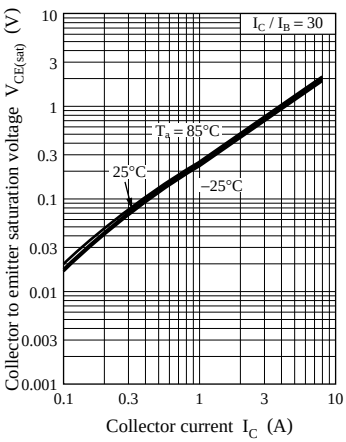
I_C — V_{BE}



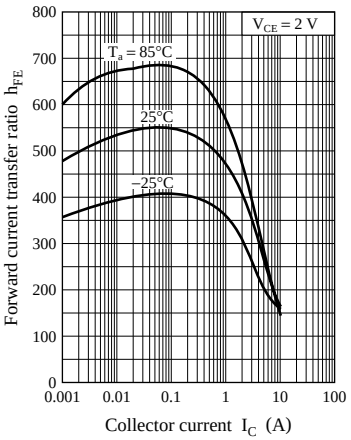
I_C — I_B



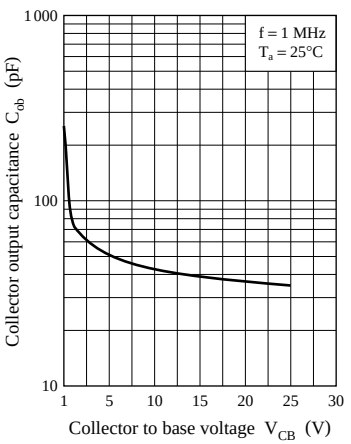
$V_{CE(sat)}$ — I_C



h_{FE} — I_C



C_{ob} — V_{CB}



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