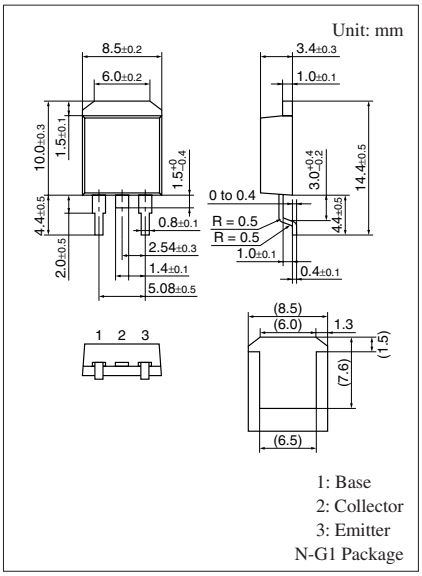
2SC3496, 2SC3496A

Silicon NPN triple diffusion planar type

For power switching

■ Features

- High-speed switching
- High collector-base voltage (Emitter open) V_{CBO}
- Satisfactory linearity of forward current transfer ratio h_{FE}
- N type package enabling direct soldering of the radiating fin to the printed circuit board, etc. of small electronic equipment



Note) Self-supported type package is also prepared.

■ Absolute Maximum Ratings $T_C = 25°C$

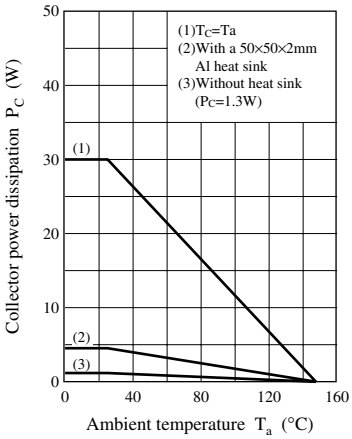
Parameter		Symbol	Rating	Unit
Collector-base voltage (Emitter open)	2SC3496	V_{CBO}	900	V
	2SC3496A		1 000	
Collector-emitter voltage (E-B short)	2SC3496	V_{CES}	900	V
	2SC3496A		1 000	
Collector-emitter voltage (Base open)	2SC3496	V_{CEO}	800	V
	2SC3496A		900	
Emitter-base voltage (Collector open)		V_{EBO}	7	V
Base current		I_B	0.3	A
Collector current		I_C	1	A
Peak collector current		I_{CP}	2	A
Collector power dissipation		P_C	30	W
	$T_a = 25°C$		1.3	
Junction temperature		T_j	150	°C
Storage temperature		T_{stg}	−55 to +150	°C

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

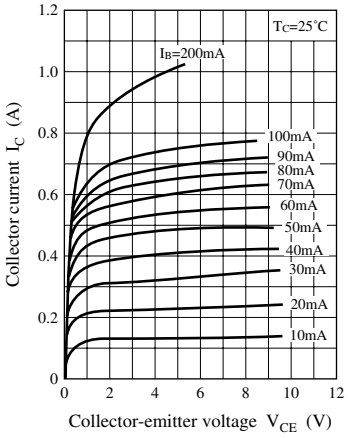
Parameter		Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	2SC3496	V_{CEO}	I_C = 1 mA, I_B = 0	800			V
	2SC3496A			900			
Collector-base cutoff current (Emitter open)	2SC3496	I_{CBO}	V_{CB} = 900 V, I_E = 0			50	µA
	2SC3496A		V_{CB} = 1 000 V, I_E = 0			50	
Emitter-base cutoff current (Collector open)		I_{EBO}	V_{EB} = 7 V, I_C = 0			50	µA
Forward current transfer ratio		h_{FE1}	V_{CE} = 5 V, I_C = 0.05 A	6			—
		h_{FE2}	V_{CE} = 5 V, I_C = 0.5 A	3			
Collector-emitter saturation voltage		$V_{CE(sat)}$	I_C = 0.2 A, I_B = 0.04 A			1.5	V
Base-emitter saturation voltage		$V_{BE(sat)}$	I_C = 0.2 A, I_B = 0.04 A			1.0	V
Transition frequency		f_T	V_{CE} = 10 V, I_C = 0.05 A, f = 1 MHz		4		MHz
Turn-on time		t_{on}	I_C = 0.2 A			1.0	µs
Storage time		t_{stg}	I_{B1} = 0.04 A, I_{B2} = − 0.08 A			3.0	µs
Fall time		t_f	V_{CC} = 250 V			1.0	µs

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

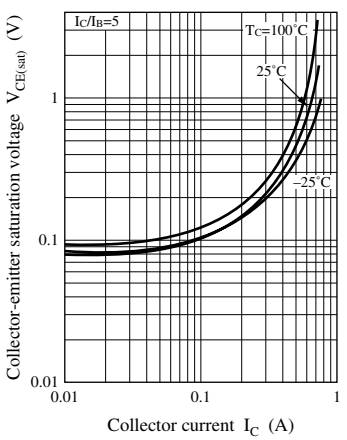
P_C — T_a



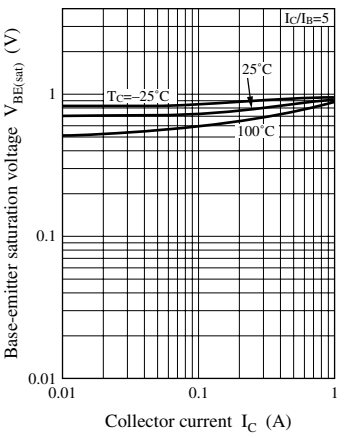
I_C — V_{CE}



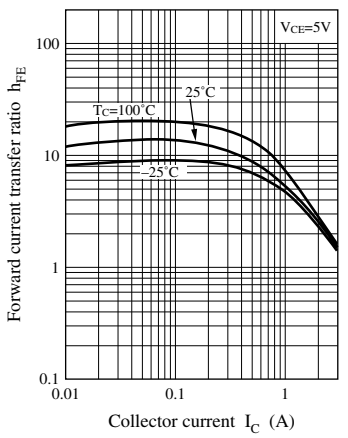
$V_{CE(sat)}$ — I_C



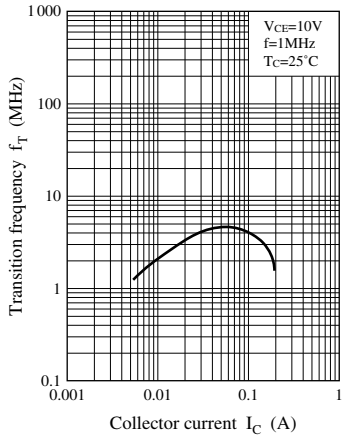
$V_{BE(sat)}$ — I_C



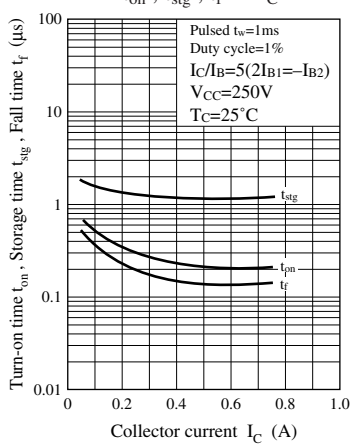
h_{FE} — I_C



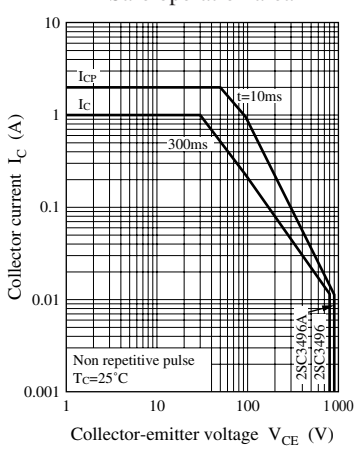
f_T — I_C



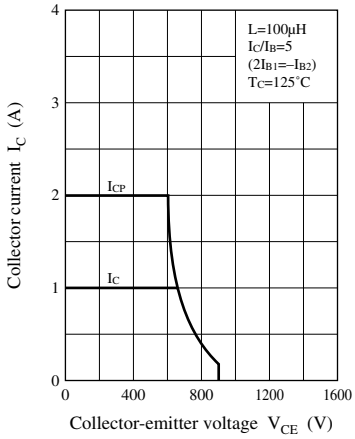
t_{on} , t_{stg} , t_f — I_C



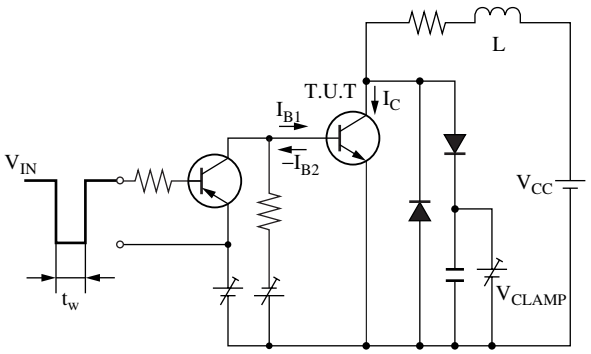
Safe operation area



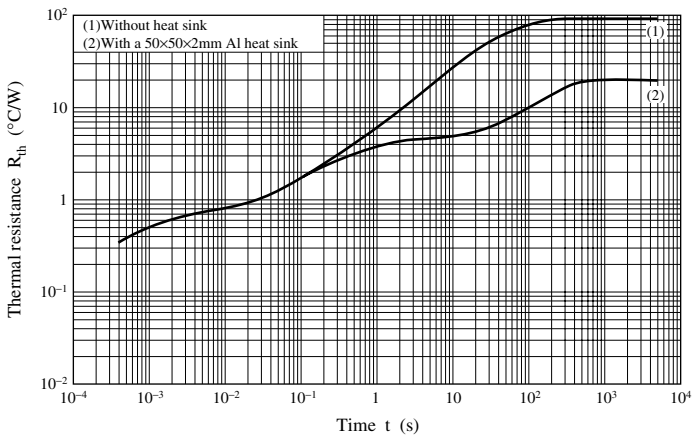
Safe operation area (Reverse bias)



Safe operation area (Reverse bias) measurement circuit



R_{th} — t



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