

# 2SC4304

Silicon NPN Triple Diffused Planar Transistor (High Voltage High Speed Switching Transistor)

Application : Switching Regulator and General Purpose

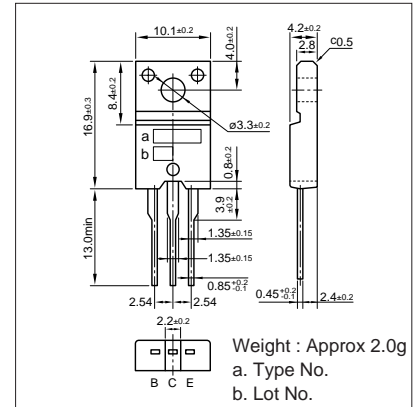
### Absolute maximum ratings (Ta=25°C)

Symbol	2SC4304	Unit
V <sub>CB0</sub>	900	V
V <sub>CEO</sub>	800	V
V <sub>EB0</sub>	7	V
I <sub>C</sub>	3(Pulse6)	A
I <sub>B</sub>	1.5	A
P <sub>C</sub>	35(Tc=25°C)	W
T <sub>J</sub>	150	°C
T <sub>stg</sub>	-55 to +150	°C

### Electrical Characteristics (Ta=25°C)

Symbol	Conditions	2SC4304	Unit
I <sub>CB0</sub>	V <sub>CB</sub> =800V	100max	μA
I <sub>EB0</sub>	V <sub>EB</sub> =7V	100max	μA
V(BR) <sub>CEO</sub>	I <sub>C</sub> =10mA	800min	V
h <sub>FE</sub>	V <sub>CE</sub> =4V, I <sub>C</sub> =0.7A	10 to 30	
V <sub>CE(sat)</sub>	I <sub>C</sub> =0.7A, I <sub>B</sub> =0.14A	0.5max	V
V <sub>BE(sat)</sub>	I <sub>C</sub> =0.7A, I <sub>B</sub> =0.14A	1.2max	V
f <sub>r</sub>	V <sub>CE</sub> =12V, I <sub>E</sub> =-0.3A	15typ	MHz
COB	V <sub>CB</sub> =10V, f=1MHz	50typ	pF

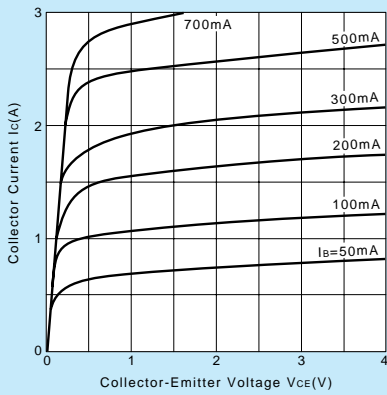
### External Dimensions FM20(TO220F)



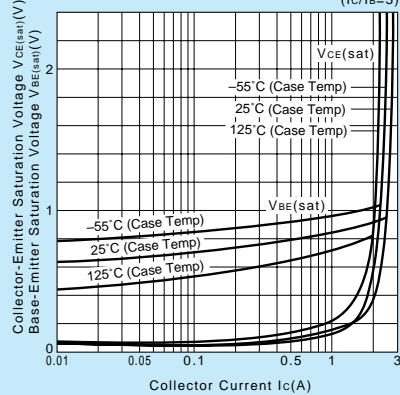
### Typical Switching Characteristics (Common Emitter)

V <sub>CC</sub> (V)	R <sub>L</sub> (Ω)	I <sub>C</sub> (A)	V <sub>BB1</sub> (V)	V <sub>BB2</sub> (V)	I <sub>B1</sub> (A)	I <sub>B2</sub> (A)	t <sub>on</sub> (μs)	t <sub>stg</sub> (μs)	t <sub>f</sub> (μs)
250	357	0.7	10	-5	0.1	-0.35	0.7max	4.0max	0.7max

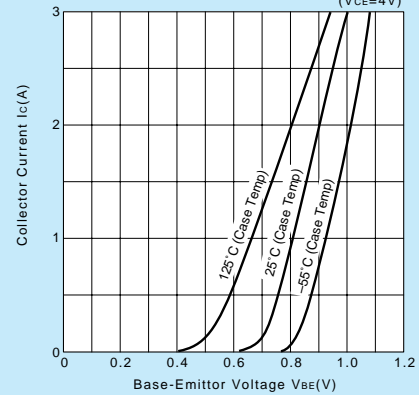
I<sub>C</sub>-V<sub>CE</sub> Characteristics (Typical)



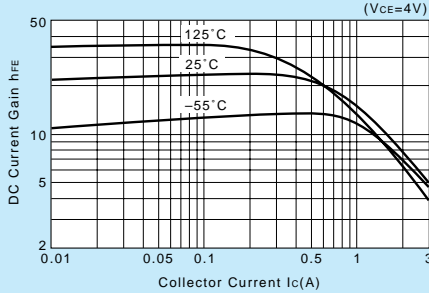
V<sub>CE(sat)</sub>, V<sub>BE(sat)</sub>-I<sub>C</sub> Temperature Characteristics (Typical)



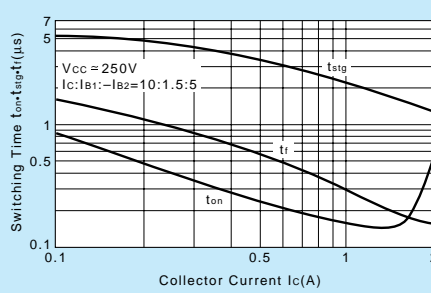
I<sub>C</sub>-V<sub>BE</sub> Temperature Characteristics (Typical)



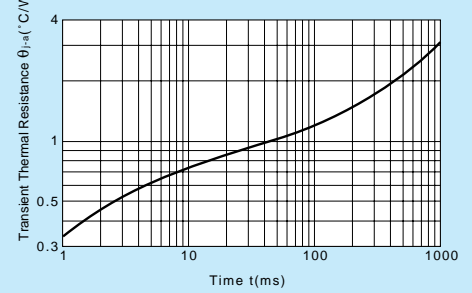
h<sub>FE</sub>-I<sub>C</sub> Characteristics (Typical)



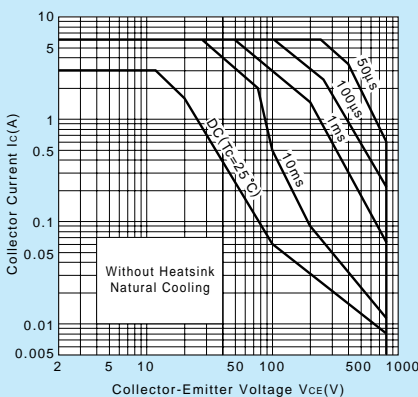
t<sub>on</sub>\*t<sub>stg</sub>\*t<sub>f</sub>-I<sub>C</sub> Characteristics (Typical)



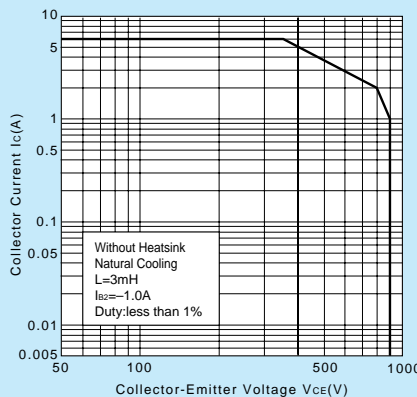
θ<sub>j-a</sub>-t Characteristics



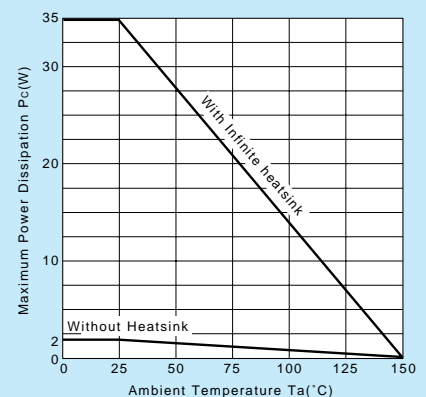
Safe Operating Area (Single Pulse)



Reverse Bias Safe Operating Area



P<sub>C</sub>-T<sub>a</sub> Derating



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Datasheets for electronic components.