2SC5002

Silicon NPN Triple Diffused Planar Transistor (High Voltage Switchihg Transistor)

Application : Display Horizontal Deflection Output, Switching Regulator and General Purpose

Absolute maximum ratings (Ta=25°C)

Symbol	2SC5002	Unit
V_{CBO}	1500	V
V_{CEO}	800	V
V_{EBO}	6	V
I_C	7(Pulse14)	A
I_B	3.5	A
P_C	80(Tc=25°C)	W
Tj	150	°C
Tstg	–55 to +150	°C

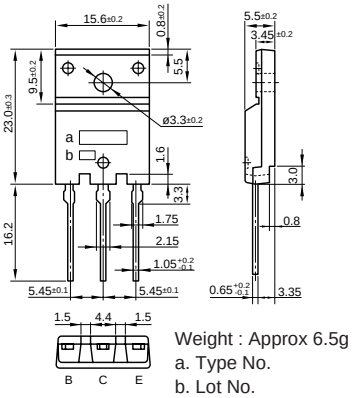
Electrical Characteristics (Ta=25°C)

Symbol	Conditions	2SC5002	Unit
I_{CBO1}	V_{CB}=1200V	100max	μA
I_{CBO2}	V_{CB}=1500V	1max	mA
I_{EBO}	V_{EB}=6V	100max	μA
$V_{(BR)CEO}$	I_C=10mA	800min	V
h_{FE1}	V_{CE}=5V, I_C=1A	8min	
h_{FE2}	V_{CE}=5V, I_C=5A	4to9	
$V_{CE(sat)}$	I_C=5A, I_B=1.2A	5max	V
$V_{BE(sat)}$	I_C=5A, I_B=1.2A	1.5max	V
f_T	V_{CE}=12V, I_E=–0.5A	4typ	MHz
C_{OB}	V_{CB}=10V, f=1MHz	100typ	pF

Typical Switching Characteristics (Common Emitter)

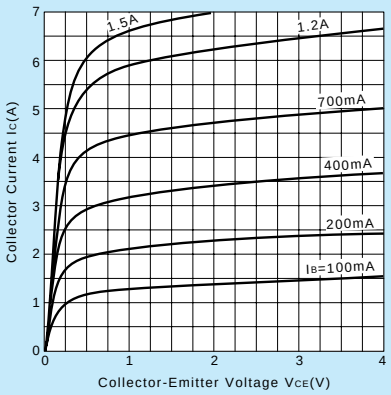
V_{CC} (V)	R_L (Ω)	I_C (A)	V_{BB1} (V)	V_{BB2} (V)	I_{B1} (A)	I_{B2} (A)	tstg (μs)	tf (μs)
200	50	4	10	–5	0.8	–1.6	4.0max	0.2max

External Dimensions FM100(TO3PF)

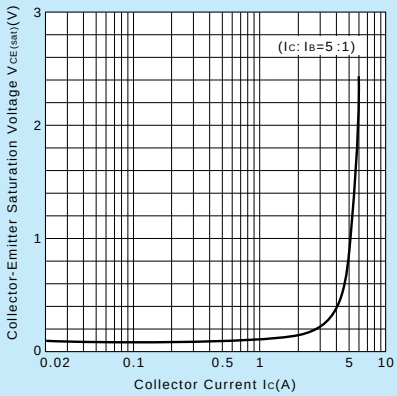


Weight : Approx 6.5g
a. Type No.
b. Lot No.

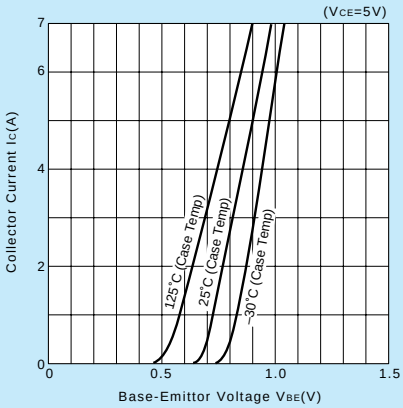
I_C–V_{CE} Characteristics (Typical)



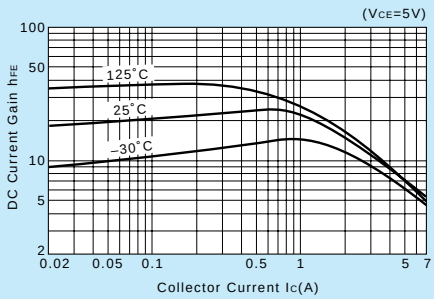
$V_{CE(sat)}$–I_C Characteristics (Typical)



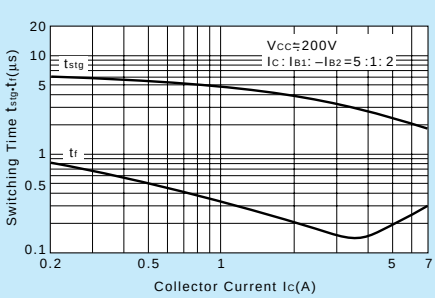
I_C–V_{BE} Temperature Characteristics (Typical)



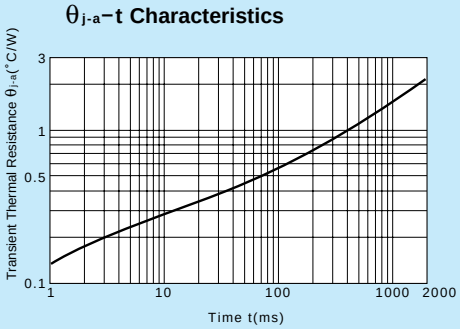
h_{FE}–I_C Characteristics (Typical)



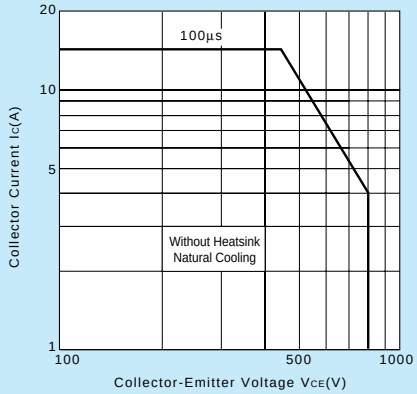
t_{stg}•t_f–I_C Characteristics (Typical)



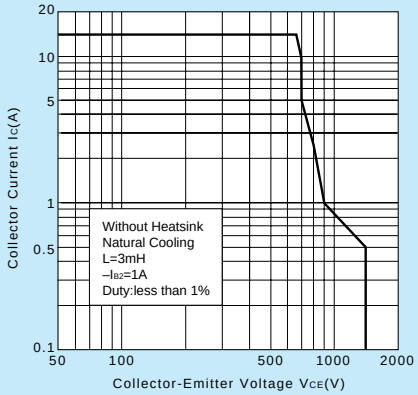
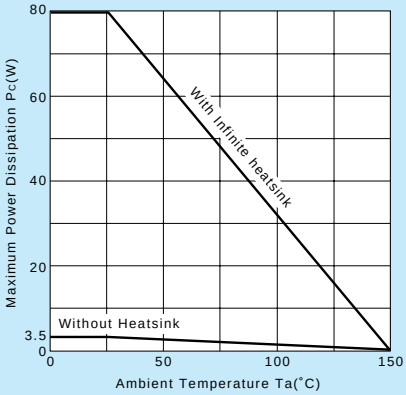
$\theta_{j\text{-}a}$–t Characteristics



Safe Operating Area (Single Pulse)



Reverse Bias Safe Operating Area



Pc–Ta Derating