

2SC3909

Absolute Maximum Ratings

($T_a=25^\circ\text{C}$)

Symbol	2SC3909	Unit
V_{CB0}	900	V
V_{CE0}	800	V
V_{EB0}	7	V
I_C	5 (Pulse 10)	A
I_B	2.5	A
P_C	100 ($T_C=25^\circ\text{C}$)	W
T_J	150	$^\circ\text{C}$
T_{stg}	-55 to +150	$^\circ\text{C}$

Silicon NPN Triple Diffused Planar Transistor

☆High Voltage and High Speed Switching Transistor

Application Example:
Switching Regulator and
General Purpose

• Outline Drawing 2 MT-100(TO3P)

Electrical Characteristics

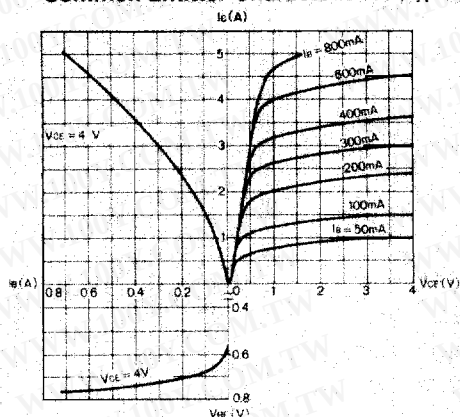
($T_a=25^\circ\text{C}$)

Symbol	Conditions	2SC3909	Unit
I_{CBO}	$V_{CB}=800\text{V}$	100max	μA
I_{EBO}	$V_{EB}=7\text{V}$	100max	μA
V_{BRCEO}	$I_C=10\text{mA}$	800min	V
$V_{CE(sat)}$	$V_{CE}=4\text{V}, I_C=1.5\text{A}$	10min	V
$V_{BE(sat)}$	$I_C=1.5\text{A}, I_B=0.3\text{A}$	1.5max	V
f_T	$V_{CE}=12\text{V}, I_E=-0.7\text{A}$	4typ	MHz

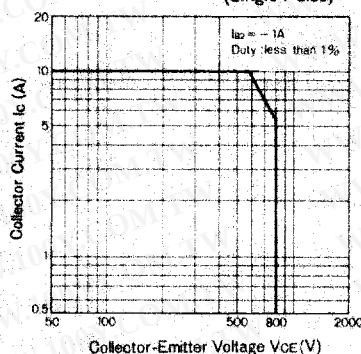
Typical Switching Characteristics (Common Emitter)

V_{CC} (V)	R_L (Ω)	I_C (A)	V_{BE1} (V)	V_{BE2} (V)	I_{B1} (A)	I_{B2} (A)	t_{on} (μs)	t_{stg} (μs)	t_r (μs)
250	166	1.5	10	-5	0.2	-0.6	1.0max	4.0max	0.5max

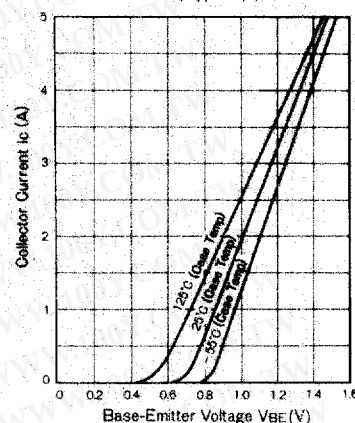
Common Emitter Characteristics (Typical)



Reverse Bias Safe Operating Area (Single Pulse)

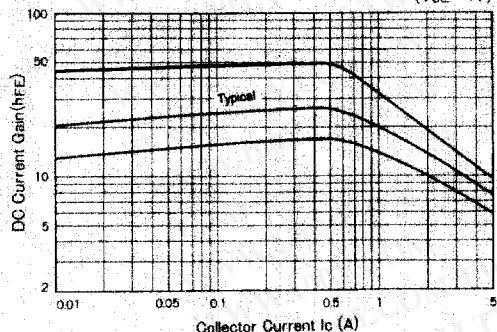


I_C - V_{BE} Temperature Characteristics (Typical) ($V_{CE}=4\text{V}$)

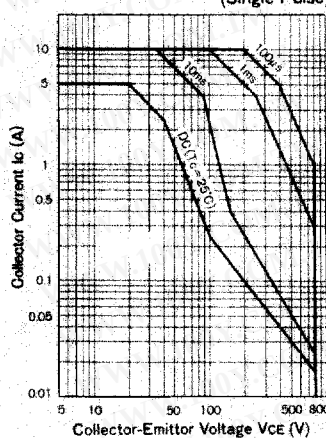


hFE- I_C Characteristics

($V_{CE}=4\text{V}$)

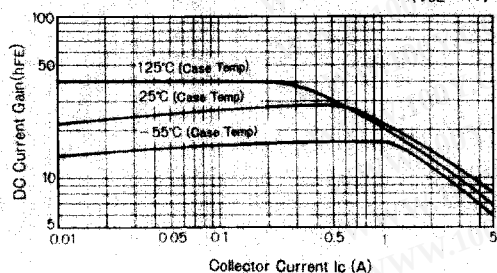


Safe Operating Area(SOA) (Single Pulse)



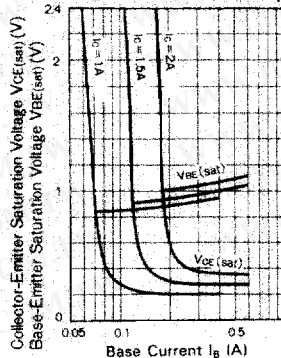
hFE- I_C Temperature Characteristics (Typical)

($V_{CE}=4\text{V}$)

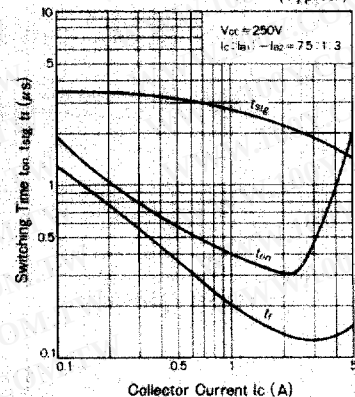


$V_{CE(sat)}$ - I_B Characteristics (Typical)

$V_{CE(sat)}$ - I_B Characteristics (Typical)



t_{on} · t_{stg} · t_r - I_C Characteristics (Typical)



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