

No. 996B

SANYO

2SC3039

NPN Triple Diffused Planar Silicon Transistor

FOR SWITCHING REGULATORS

Features

- . High breakdown voltage($V_{CBO} \geq 500V$)
- . Fast switching speed.
- . Wide ASO.

Absolute Maximum Ratings at Ta=25°C

Absolute Maximum Ratings at Ta=25°C			unit
Collector-to-Base Voltage	V _{CB0}	500	V
Collector-to-Emitter Voltage	V _{CE0}	400	V
Emitter-to-Base Voltage	V _{EB0}	7	V
Collector Current	I _C	7	A
Peak Collector Current	i _{cp}	14	A
		PW≤300μs, Duty Cycle≤10%	
Base Current	I _B	3	A
Collector Dissipation	P _C	1.75	W
		Tc=25°C	
Junction Temperature	T _j	50	W
Storage Temperature	T _{stg}	150	°C
		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Electrical Characteristics at Ta=25°C			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=400V, I_E=0$			10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5V, I_C=0$			10	μA
DC Current Gain	$h_{FE}(1)$	$V_{CE}=5V, I_C=0.8A$		15*	50*	
	$h_{FE}(2)$	$V_{CE}=5V, I_C=4A$		8		
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=4A, I_B=0.8A$			1.0	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=4A, I_B=0.8A$			1.5	V
Gain Bandwidth Product	f_T	$V_{CE}=10V, I_C=0.8A$		20		MHz
Output Capacitance	c_{ob}	$V_{CB}=10V, f=1MHz$		80		pF
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1mA, I_E=0$	500			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=5mA, R_{BE}=\infty$	400			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1mA, I_C=0$	7			V
C-E Sustain Voltage	$V_{CEO(sus)}$	$I_C=7A, I_B=1.4A, L=50\mu H$	400			V
C-E Sustain Voltage	$V_{CEX(sus)}$	$I_C=7A, I_{B1}=1.4A, L=200\mu H,$	400			V
	(1)	$I_{B2}=-1.4A, \text{clamped}$				
C-E Sustain Voltage	$V_{CEX(sus)}$	$I_C=1.5A, I_{B1}=0.3A, L=200\mu H$	450			V
	(2)	$I_{B2}=-0.3A, \text{clamped}$				

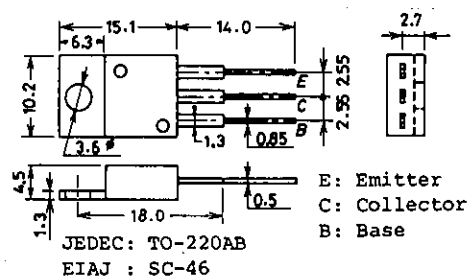
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*: The $h_{FE(1)}$ of the 2SC3039 is classified as follows. When specifying the $h_{FE(1)}$ rank, specify two ranks or more in principle.

15 L 30	20 M 40	30 N 50
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Package Dimensions 2010A

(unit:mm)



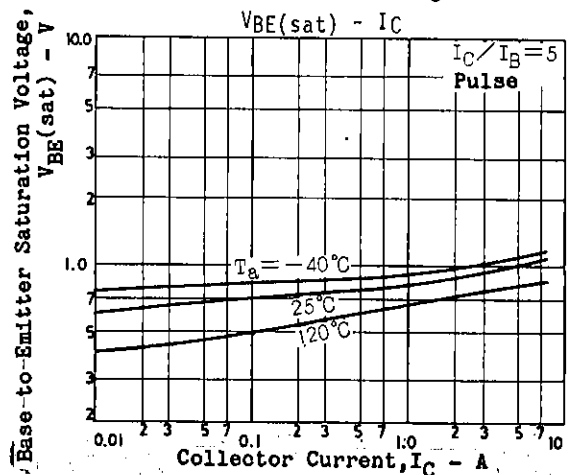
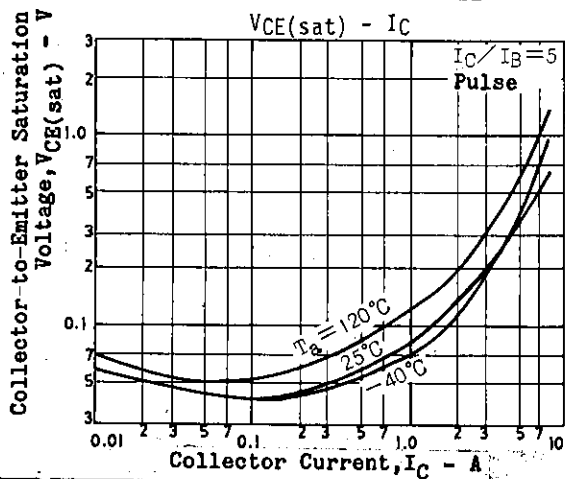
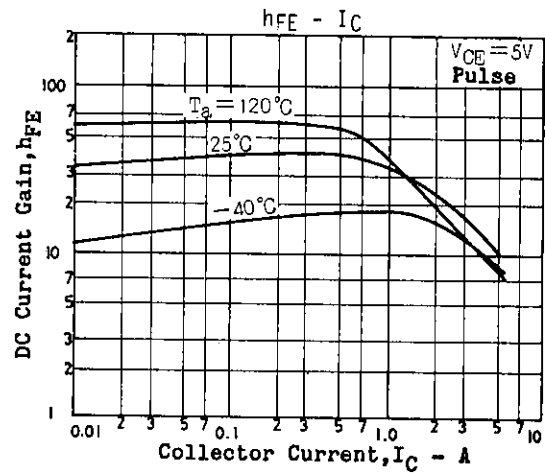
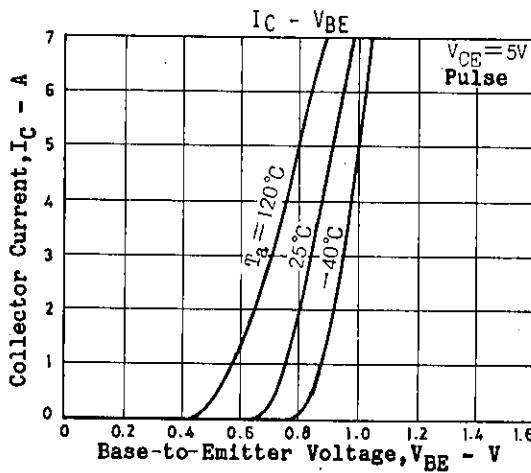
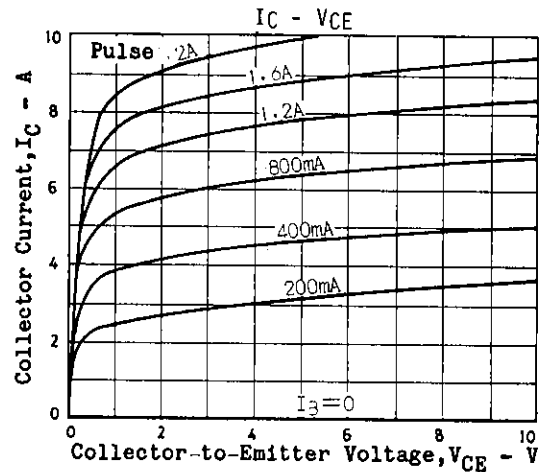
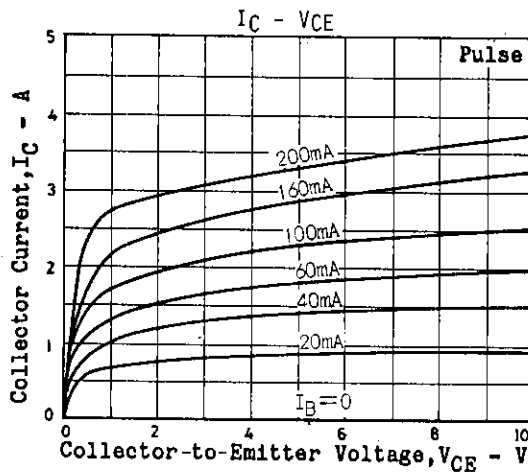
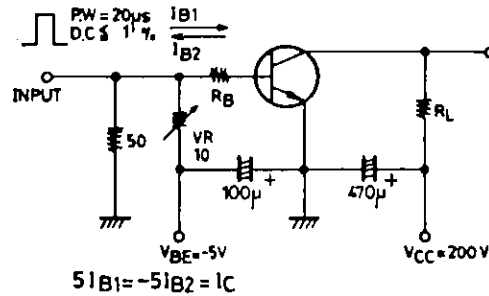
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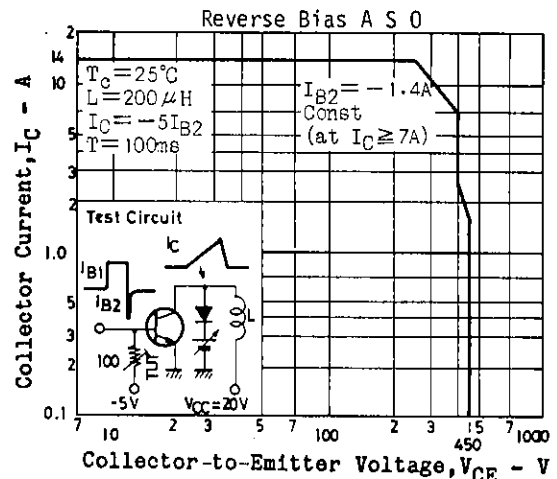
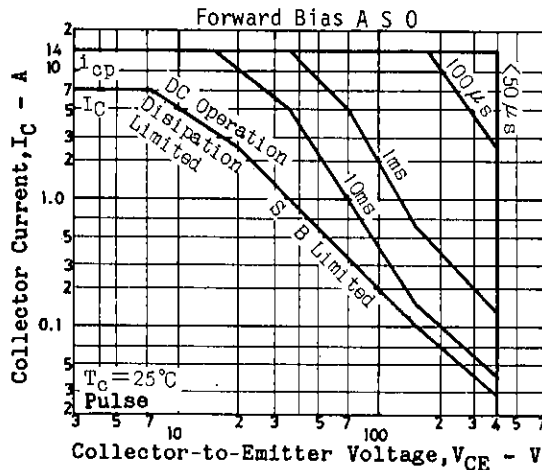
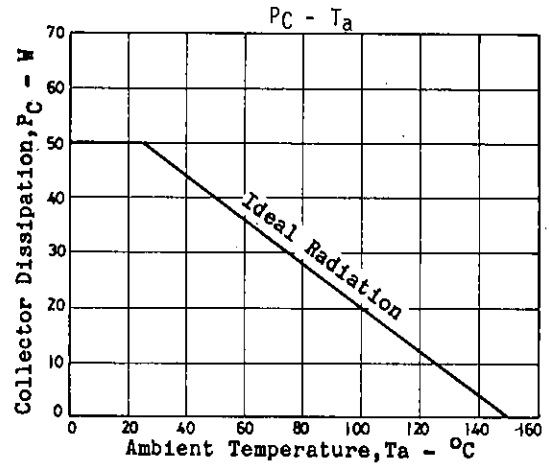
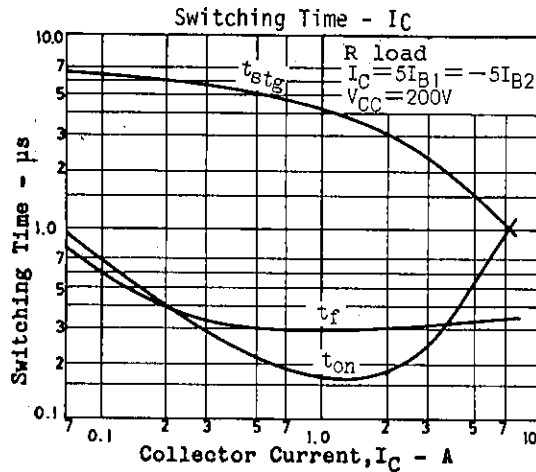
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			min	typ	max	unit
Turn-ON Time	t_{on}	$I_C=5A, I_{B1}=1A, I_{B2}=-1A,$ $R_L=40\Omega, V_{CC}=200V$			1.0	μs
Storage Time	t_{stg}	" "			2.5	μs
Fall Time	t_f	" "			1.0	μs

Switching Time Test Circuit





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