Ordering number: EN 996B

SANYO No.996B

2SC3039

NPN Triple Diffused Planar Silicon Transistor

FOR SWITCHING REGULATORS

Features

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

Absolute Maximum Ratings at Ta=25°C

				unit
Collector-to-Base Voltage	V_{CBO}		500	V
Collector-to-Emitter Voltage	V_{CEO}		400	V
Emitter-to-Base Voltage	V_{EBO}		7	V
Collector Current	I_C		7	A
Peak Collector Current	i_{cp}	PW≦300μs, Duty Cycle≦10%	14	A
Base Current	I_B		3	A
Collector Dissipation	P_C		1.75	W
		Tc=25°C	50	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°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}=∞	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=50μH	400			V
C-E Sustain Voltage	$V_{CEX(sus)}$ (1)	I_C=7A, I_{B1}=1.4A, L=200μH, I_{B2}=-1.4A, clamped	400			V
C-E Sustain Voltage	$V_{CEX(sus)}$ (2)	I_C=1.5A, I_{B1}=0.3A, L=200μH I_{B2}=-0.3A, clamped	450			V

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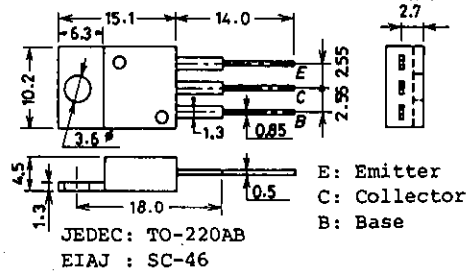
*: The $h_{FE(1)}$ of the 2SC3039 is classified as follows. When specifying the $h_{FE(1)}$ rank, specify two ranks or more in principle.

15 L 30	20 M 40	30 N 50

Package Dimensions 2010A
(unit:mm)



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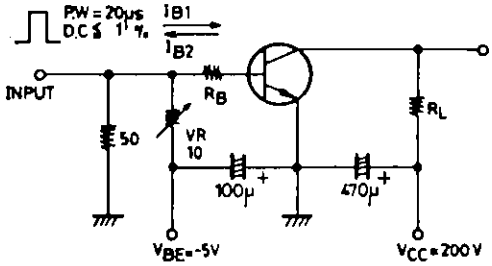
			min	typ	max	unit
Turn-ON Time	t_{on}	I_C=5A, I_{B1}=1A, I_{B2}=-1A, R_L=40ohms, V_{CC}=200V			1.0	μs
Storage Time	t_{stg}	" "			2.5	μs
Fall Time	t_f	" "			1.0	μs

Switching Time Test Circuit



$5I_{B1}=-5I_{B2}=I_C$

Unit (Resistance : Ω, Capacitance : F)