Ordering number: EN 1577B

SANYO No.1577B

2SC3451

NPN Triple Diffused Planar Silicon Transistor

FOR SWITCHING REGULATORS

Features

- High breakdown voltage and high reliability
- Fast switching speed (t_f: 0.1μs typ.)
- Wide ASO
- Adoption of MBIT process

Absolute Maximum Ratings at Ta=25°C

				unit
Collector-to-Base Voltage	V_{CBO}		800	V
Collector-to-Emitter Voltage	V_{CEO}		500	V
Emitter-to-Base Voltage	V_{EBO}		7	V
Collector Current	I_C		15	A
Peak Collector Current	i_{cp}	PW≦300μs, Duty Cycle≦10%	25	A
Base Current	I_B		4	A
Collector Dissipation	P_C	Tc=25°C	100	W
Junction Temperature	T_j		150	°C
storage Temperature	T_{stg}		-55 to +150	°C

Electrical Characteristics at Ta=25°C

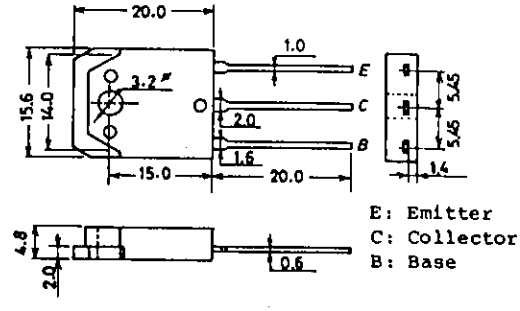
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB}=500V, I_E=0			10	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=5V, I_C=0			10	μA
DC Current Gain	$h_{FE(1)}$	V_{CE}=5V, I_C=1.2A	15*		50*	
	$h_{FE(2)}$	V_{CE}=5V, I_C=6A	8			
Gain-Bandwidth Product	f_T	V_{CE}=10V, I_C=1.2A		18		MHz
Output Capacitance	Cob	V_{CB}=10V, f=1MHz		160		pF
C-E Saturation Voltage	$V_{CE(sat)}$	I_C=6A, I_B=1.2A			1.0	V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C=6A, I_B=1.2A			1.5	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C=1mA, I_E=0	800			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C=5mA, R_{BE}=∞	500			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	I_E=1mA, I_C=0	7			V

Continued on next page.

*: The $h_{FE(1)}$ of the 2SC3451 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 2022
(unit:mm)



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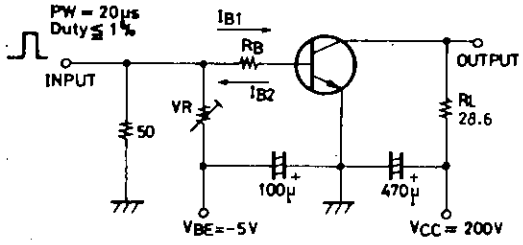
			min	typ	max	unit
C-E Sustain Voltage	$V_{CEX(sus)}$	I_C=5A, I_{B1}=-I_{B2}=2A, L=500μH, clamped	500			V
Turn-on Time	ton	V_{CC}=200V,			0.5	μs
Storage Time	tstg	5I_{B1}=-2.5I_{B2}=I_C=7A,			3.0	μs
Fall Time	tf	R_L=28.6ohms			0.3	μs

Switching Time Test Circuit



Unit (Resistance : Ω, Capacitance : F)