

SANYO

No.1068C

2SC3149

NPN Triple Diffused Planar Silicon Transistor

800V/1.5A Switching Regulator Applications**Features**

- High breakdown voltage ($V_{CB0} \geq 900V$).
- Fast switching speed.
- Wide ASO.

Absolute Maximum Ratings at $T_a = 25^\circ C$

			unit
Collector-to-Base Voltage	V_{CB0}	900	V
Collector-to-Emitter Voltage	V_{CE0}	800	V
Emitter-to-Base Voltage	V_{EB0}	7	V
Collector Current	I_C	1.5	A
Collector Current (Pulse)	I_{CP}	5	A
		$PW \leq 300\mu s$, Duty Cycle $\leq 10\%$	
Base Current	I_B	0.8	A
Collector Dissipation	P_C	40	W
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature	T_{stg}	-55 to +150	$^\circ C$

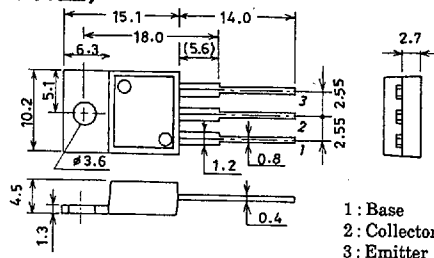
Electrical Characteristics at $T_a = 25^\circ C$

			min	typ	max	unit
Collector Cutoff Current	I_{CB0}	$V_{CB} = 800V, I_E = 0$			10	μA
Emitter Cutoff Current	I_{EB0}	$V_{EB} = 5V, I_C = 0$			10	μA
DC Current Gain	$h_{FE}(1)$	$V_{CE} = 5V, I_C = 0.1A$	10*		40*	
	$h_{FE}(2)$	$V_{CE} = 5V, I_C = 0.5A$	8			
Gain-Bandwidth Product	f_T	$V_{CE} = 10V, I_C = 0.1A$		15		MHz
Output Capacitance	C_{ob}	$V_{CB} = 10V, f = 1MHz$		30		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = 0.75A, I_B = 0.15A$		2.0		V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = 0.75A, I_B = 0.15A$		1.5		V
C-B Breakdown Voltage	$V_{(BR)CB0}$	$I_C = 1mA, I_E = 0$	900			V
C-E Breakdown Voltage	$V_{(BR)CE0}$	$I_C = 5mA, R_{BE} = \infty$	800			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 1mA, I_C = 0$	7			V
C-E Sustain Voltage	$V_{CEO(sus)}$	$I_C = 1.5A, L = 1mH, I_B = 0.5A$	800			V
C-E Sustain Voltage	$V_{CEX(sus)}$	$I_C = 0.5A, I_{B1} = 0.1A$	800			V
	(1)	$I_{B2} = -0.1A, L = 5mH, \text{clamped}$				
C-E Sustain Voltage	$V_{CEX(sus)}$	$I_C = 0.25A, I_{B1} = 0.05A$	900			V
	(2)	$I_{B2} = -0.05A, L = 10mH, \text{clamped}$				

Continued on next page.

*: The $h_{FE}(1)$ of the 2SC3149 is classified as follows. When specifying the $h_{FE}(1)$ rank, specify two ranks or more in principle.

10	K	20	15	L	30	20	M	40
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Package Dimensions 2010C
(unit:mm)

1: Base
2: Collector
3: Emitter

JEDEC: TO220AB
EIAJ: SC46

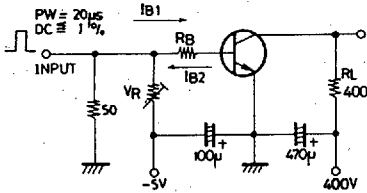
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Turn-ON Time	t_{on}	$(I_C=1A, I_{B1}=0.2A, I_{B2}=-0.4A,$ $R_L=400\Omega, V_{CC}=400V$	min	typ	max	unit
Storage Time	t_{stg}	"			3.0	μs
Fall Time	t_f	"			0.7	μs

Switching Time Test Circuit

Unit (Resistance : Ω , Capacitance : F)