

SANYO

No.1072D

2SC3153

NPN Triple Diffused Planar Silicon Transistor

Switching Regulator Applications

Features

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

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

			unit
Collector-to-Base Voltage	V_{CBO}	900	V
Collector-to-Emitter Voltage	V_{CEO}	800	V
Emitter-to-Base Voltage	V_{EBO}	7	V
Collector Current	I_C	6	A
Collector Current (Pulse)	I_{CP}	Pulse, $PW \leq 300\mu s$, Duty cycle $\leq 10\%$	
Base Current	I_B	3	A
Collector Dissipation	P_C	100	W
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature	T_{stg}	-55 to +150	$^\circ C$

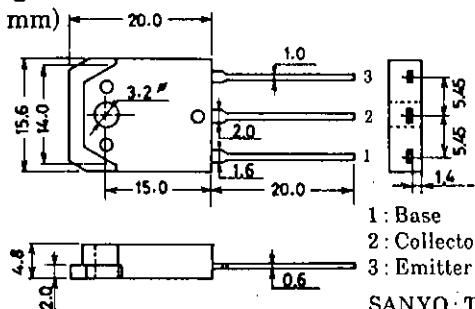
Electrical Characteristics at $T_a = 25^\circ C$

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = 800V, I_E = 0$			10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5V, I_C = 0$			10	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = 5V, I_C = 0.4A$	10*		40*	
	$h_{FE(2)}$	$V_{CE} = 5V, I_C = 2A$	8			
Gain-Bandwidth Product	f_T	$V_{CE} = 10V, I_C = 0.4A$		15		MHz
Output Capacitance	C_{ob}	$V_{CB} = 10V, f = 1MHz$		120		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = 3A, I_B = 0.6A$			2.0	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = 3A, I_B = 0.6A$			1.5	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 1mA, I_E = 0$	900			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 5mA, R_{BE} = \infty$	800			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 1mA, I_C = 0$	7			V
C-E Sustain Voltage	$V_{CEO(sus)}$	$I_C = 6A, L = 200\mu H, I_B = 2A$	800			V
	$V_{CEX(sus)(1)}$	$I_C = 2A, I_{B1} = 0.4A, I_{B2} = -0.4A,$ $L = 1mH, \text{Clamped}$	800			V
	$V_{CEX(sus)(2)}$	$I_C = 1A, I_{B1} = 0.2A, I_{B2} = -0.2A,$ $L = 2mH, \text{Clamped}$	900			V
Rise Time	t_{on}	$I_C = 4A, I_{B1} = 0.8A, I_{B2} = -1.6A,$ $R_L = 100\Omega, V_{CC} = 400V$			1.0	μs
Storage Time	t_{stg}				3.0	μs
Fall Time	t_f				0.7	μs

*: For the $h_{FE(1)}$ of the 2SC3153, specify two ranks or more in principle.

10	K	20	15	L	30	20	M	40	Package Dimensions 2022A
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(unit: mm)



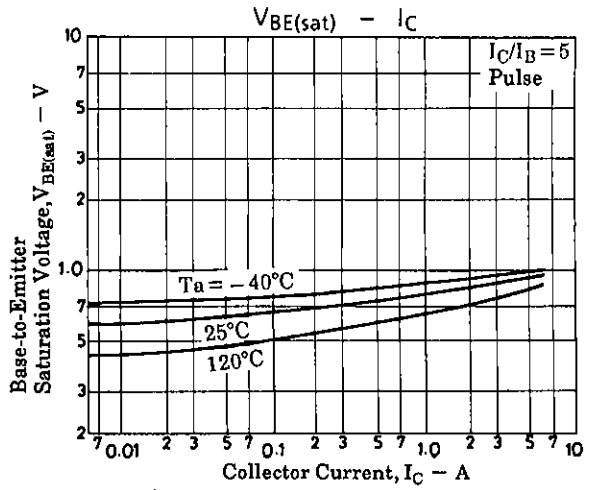
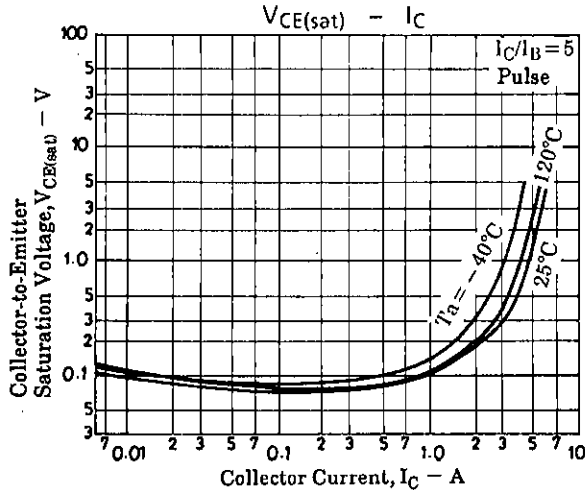
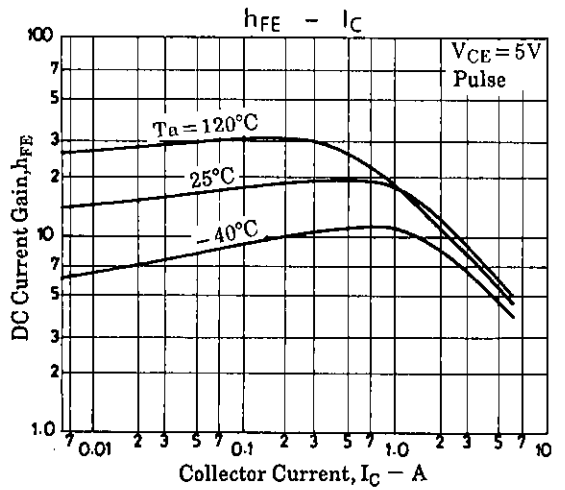
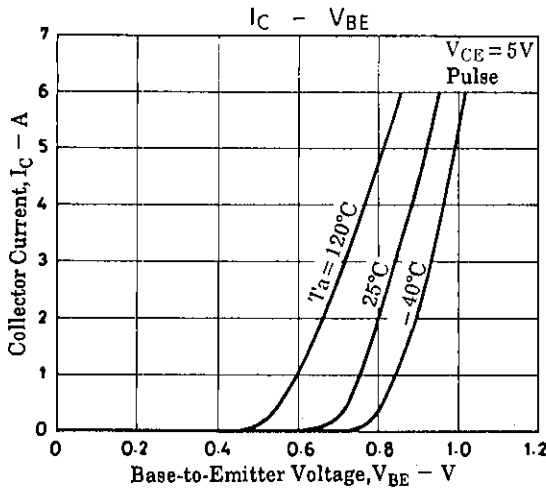
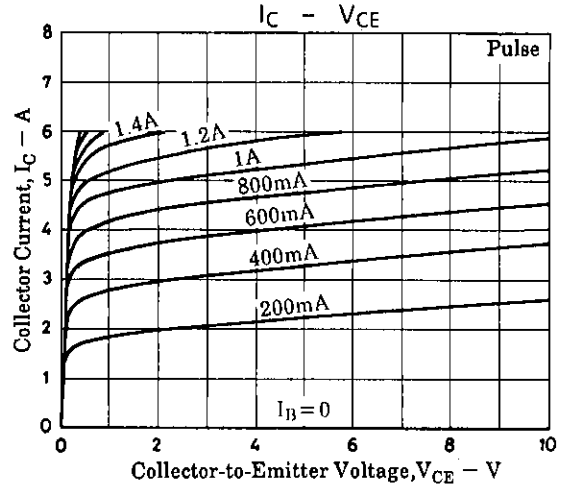
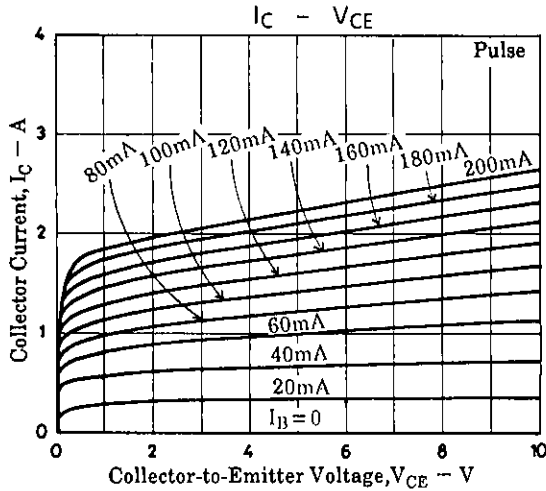
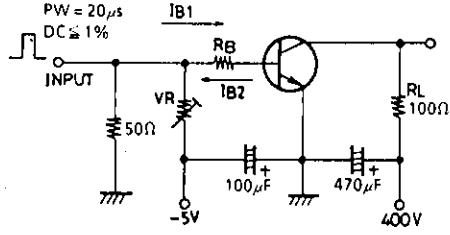
1: Base
2: Collector
3: Emitter

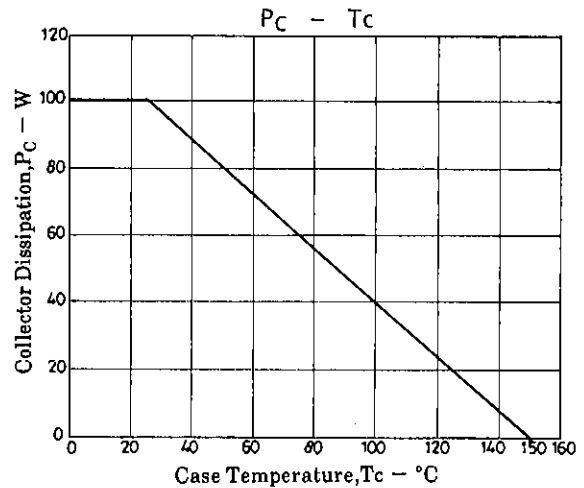
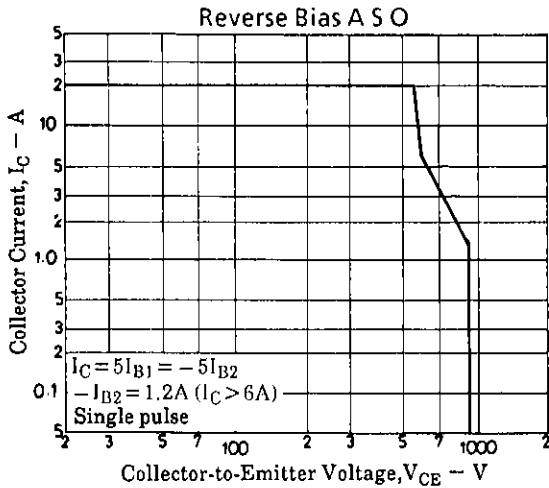
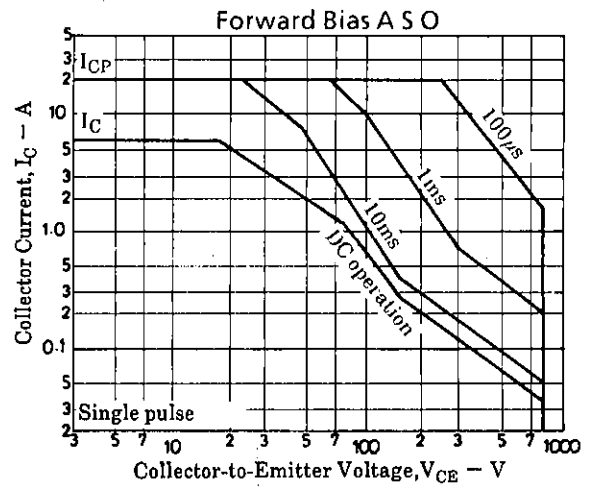
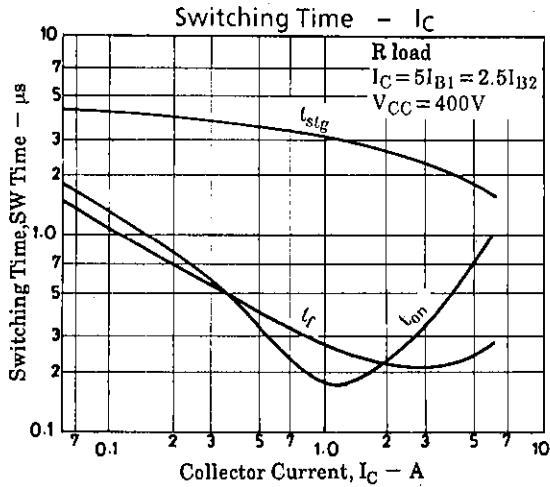
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Switching Time Test Circuit





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