

SANYO	No. 1589C	2SC3458
NPN Triple Diffused Planar Type Silicon Transistor		
FOR SWITCHING REGULATORS		

Features

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

Absolute Maximum Ratings at Ta=25°C

			unit
Collector-to-Base Voltage	V_{CBO}	1100	V
Collector-to-Emitter Voltage	V_{CEO}	800	V
Emitter-to-Base Voltage	V_{EBO}	7	V
Collector Current	I_C	3	A
Peak Collector Current	i_{cp}	$PW \leq 300\mu s, Duty\ Cycle \leq 10\%$	10 A
Base Current	I_B	1.5	A
Collector Dissipation	P_C	$T_C = 25^\circ C$	80 W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 to +150	°C

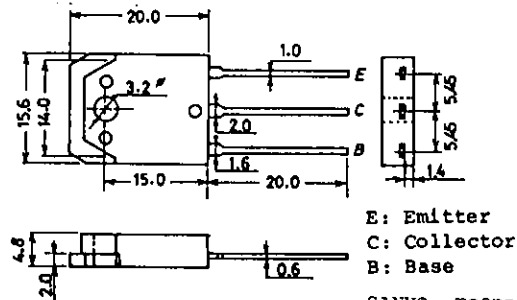
Electrical Characteristics at Ta=25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = 800V, I_E = 0$			10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5V, I_C = 0$			10	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = 5V, I_C = 0.2A$	10*		40*	
	$h_{FE(2)}$	$V_{CE} = 5V, I_C = 1A$	8			
Gain-Bandwidth Product	f_T	$V_{CE} = 10V, I_C = 0.2A$		15		MHz
Output Capacitance	c_{ob}	$V_{CB} = 10V, f = 1MHz$		60		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = 1.5A, I_B = 0.3A$			2.0	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = 1.5A, I_B = 0.3A$			1.5	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 1mA, I_E = 0$	1100			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	$V_{CEX(sus)}$	$I_C = 1.5A$	800			V
Turn-On Time	t_{on}	$I_{B1} = -I_{B2} = 0.3A,$ $L = 2mH, clamped$ $V_{CC} = 400V,$ $5I_{B1} = -2.5I_{B2} = I_C = 2A,$ $R_L = 200ohms$			0.5	μs
Storage Time	t_{stg}				3.0	μs
Fall Time	t_f				0.3	μs

*: The $h_{FE(1)}$ of the 2SC3458 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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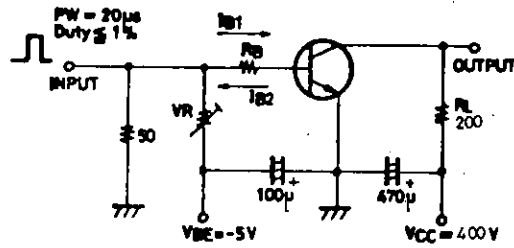
Package Dimensions 2022
(unit:mm)



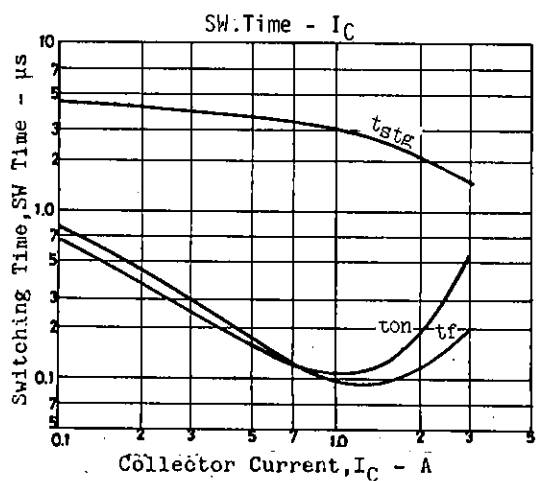
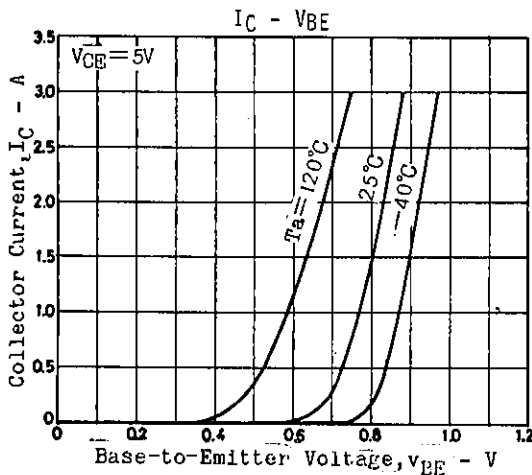
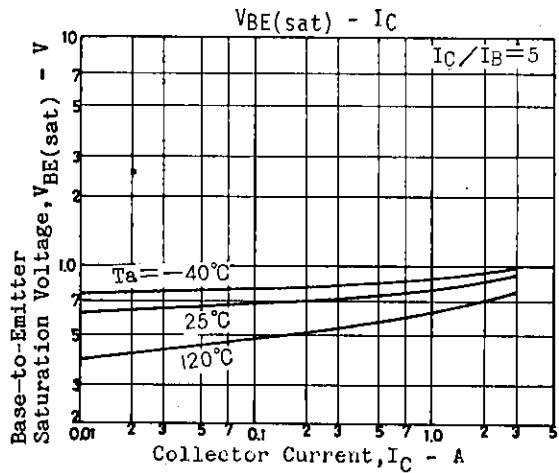
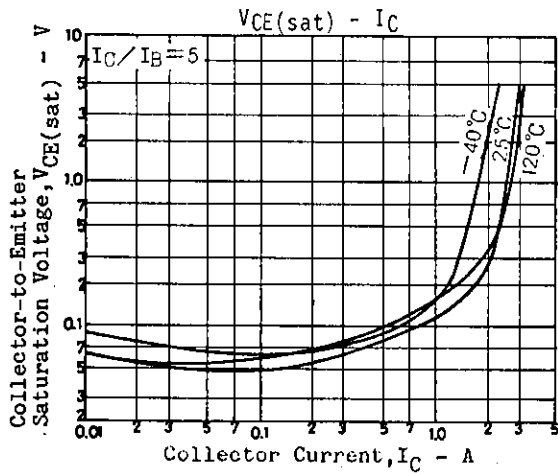
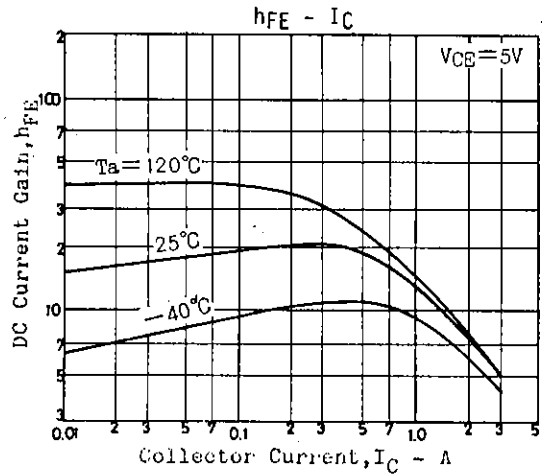
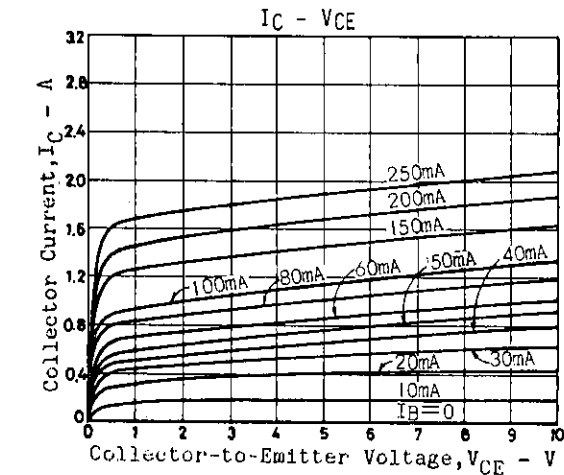
E: Emitter
C: Collector
B: Base

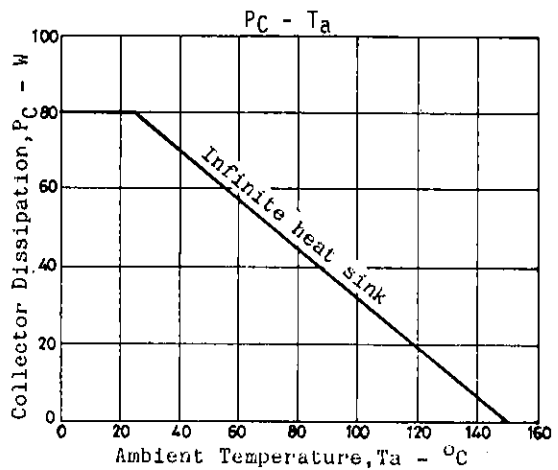
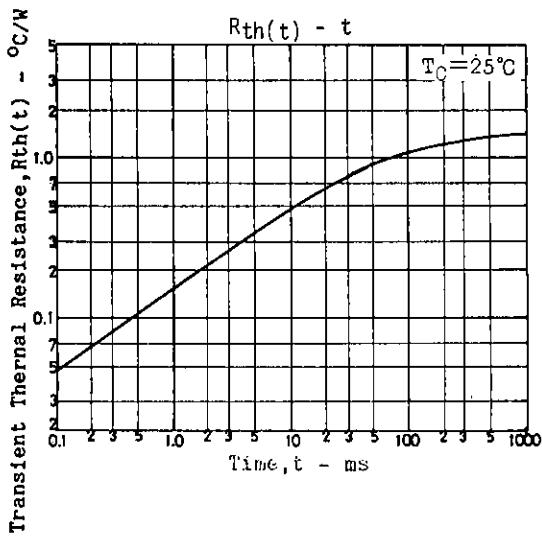
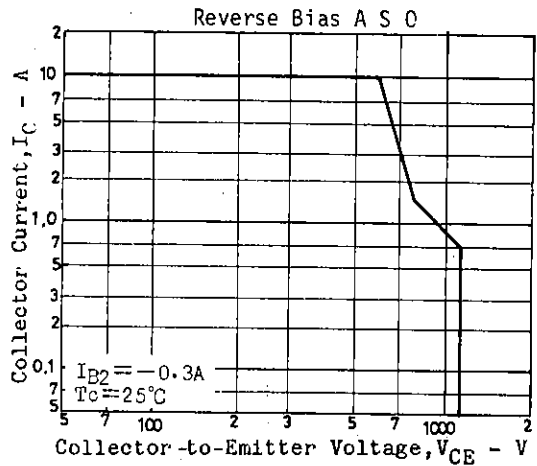
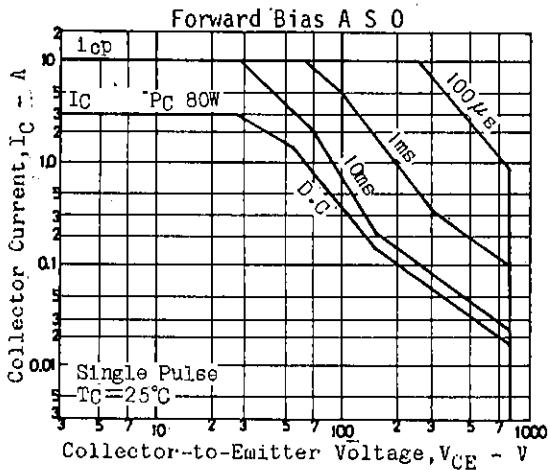
SANYO: TO3PB

Switching Time Test Circuit



Unit (Resistance : Ω, Capacitance : F)





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