

<b>SANYO</b>	No. 1589C	<b>2SC3458</b> NPN Triple Diffused Planar Type Silicon Transistor FOR SWITCHING REGULATORS
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**Features**

- . High breakdown voltage and high reliability.
- . Fast switching speed ( $t_f$ : 0.1 $\mu$ 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

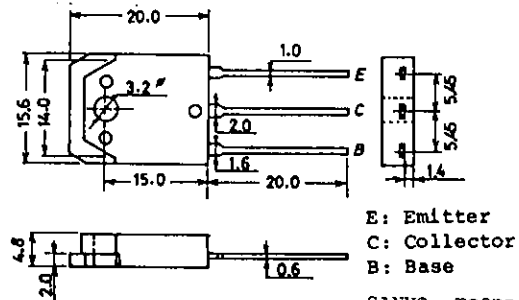
**Electrical Characteristics at Ta=25°C**

			min	typ	max	unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 800V, I_E = 0$			10	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 5V, I_C = 0$			10	$\mu A$
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	$\mu s$
Storage Time	$t_{stg}$				3.0	$\mu s$
Fall Time	$t_f$				0.3	$\mu s$

\*: 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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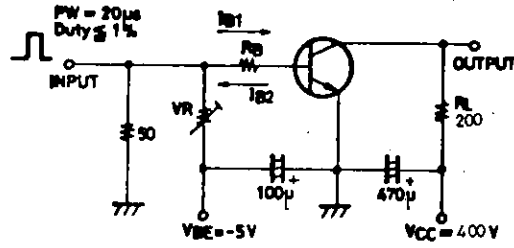
**Package Dimensions 2022**  
(unit:mm)



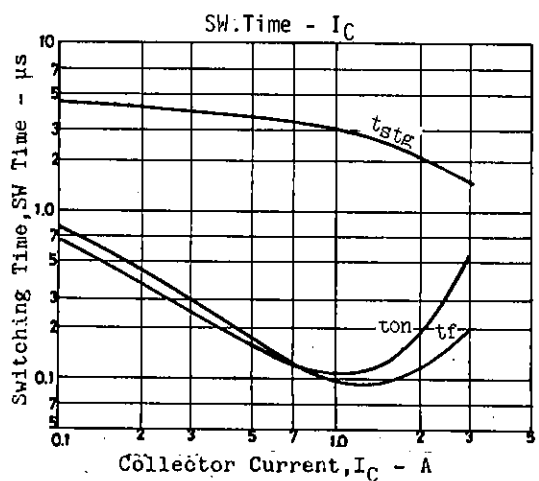
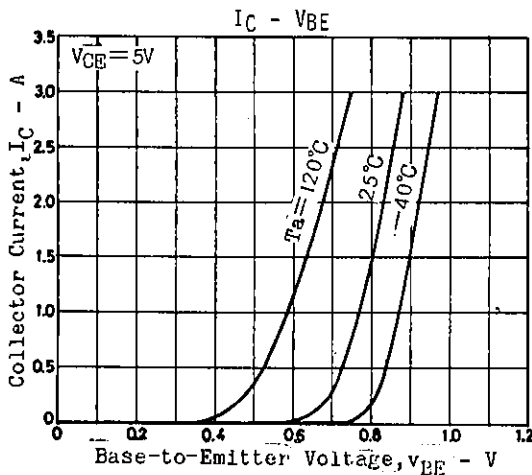
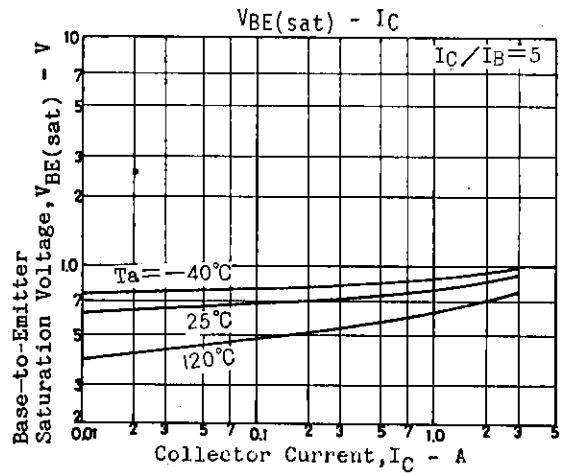
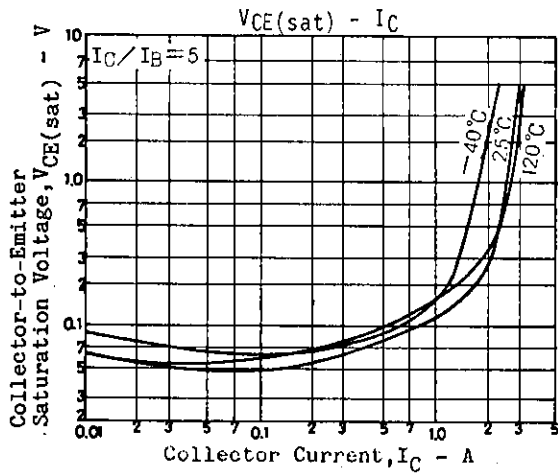
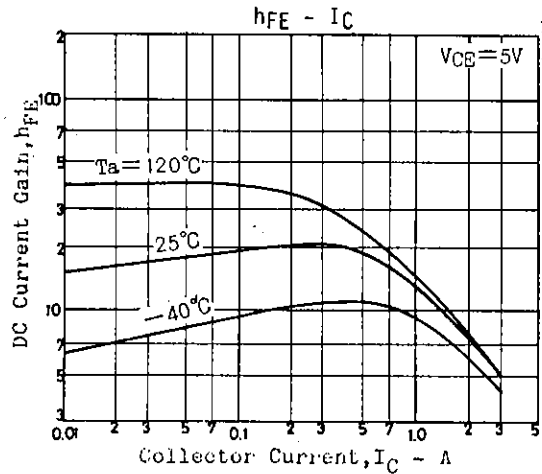
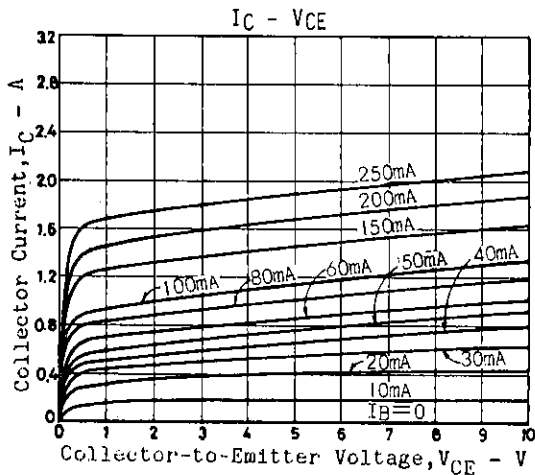
E: Emitter  
C: Collector  
B: Base

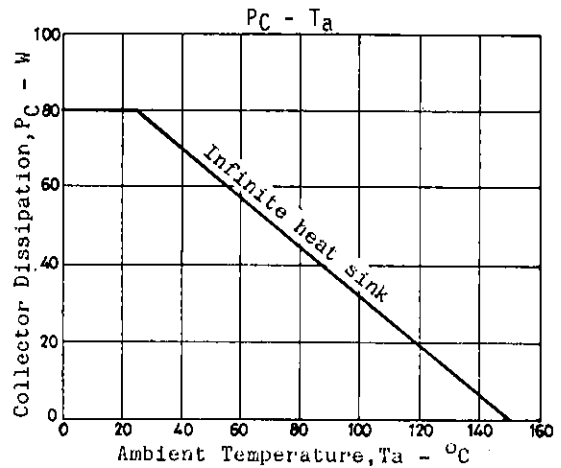
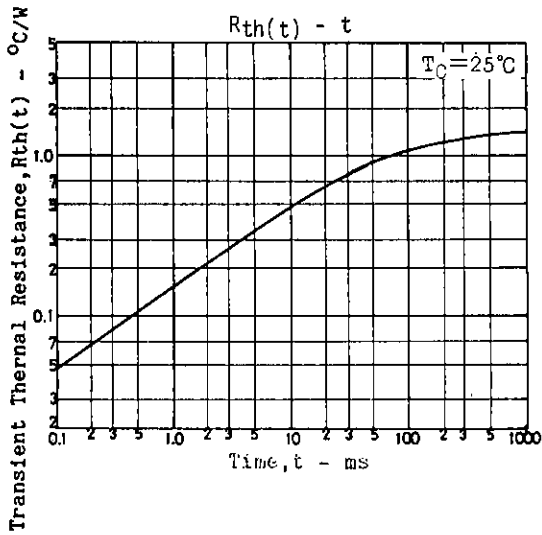
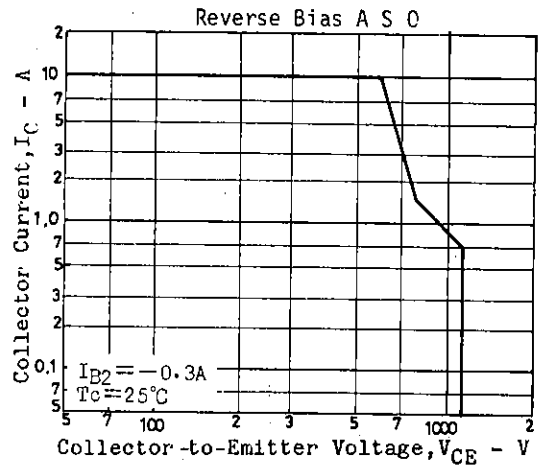
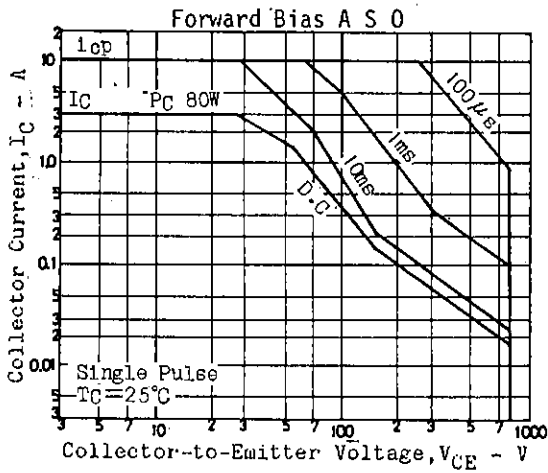
SANYO: TO3PB

Switching Time Test Circuit



Unit (Resistance :  $\Omega$ , Capacitance : F)





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