

<b>SANYO</b>	No.3330	<b>2SC4459</b>
		NPN Triple Diffused Planar Silicon Transistor

## Switching Regulator Applications

**Features**

- High breakdown voltage, high reliability
- Fast switching speed
- Wide ASO
- Adoption of MBIT process
- Micaless package facilitating mounting

**Absolute Maximum Ratings at Ta = 25°C**

			unit
Collector-to-Base Voltage	V <sub>CB0</sub>	800	V
Collector-to-Emitter Voltage	V <sub>CEO</sub>	500	V
Emitter-to-Base Voltage	V <sub>EBO</sub>	7	V
Collector Current	I <sub>C</sub>	10	A
Peak Collector Current	i <sub>cp</sub>	20	A
Base Current	I <sub>B</sub>	3	A
Collector Dissipation	P <sub>C</sub>	3	W
		50	W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 to +150	°C

PW ≤ 300 μs, duty cycle ≤ 10%

Tc = 25°C

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

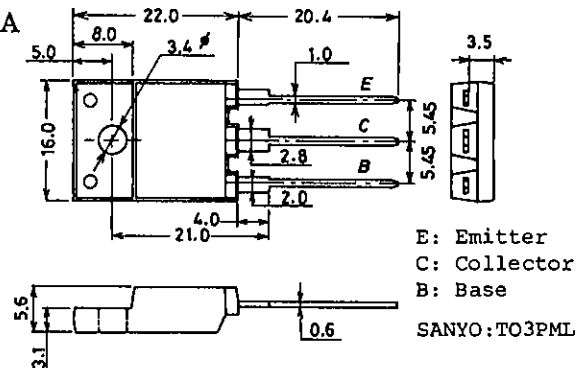
			min	typ	max	unit
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> = 500V, I <sub>E</sub> = 0			10	μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> = 5V, I <sub>C</sub> = 0			10	μA
DC Current Gain	h <sub>FE(1)</sub>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 0.8A	15*		50*	
	h <sub>FE(2)</sub>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 4A	8			
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 0.8A		18		MHz
Output Capacitance	c <sub>ob</sub>	V <sub>CB</sub> = 10V, f = 1MHz		50		pF
C-E Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 4A, I <sub>B</sub> = 0.8A			1.0	V
B-E Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = 4A, I <sub>B</sub> = 0.8A			1.5	V
C-B Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = 1mA, I <sub>E</sub> = 0	800			V
C-E Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = 5mA, R <sub>BE</sub> = ∞	500			V
E-B Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = 1mA, I <sub>C</sub> = 0	7			V
C-E Sustain Voltage	V <sub>CEX(sus)</sub>	I <sub>C</sub> = 3.5A, I <sub>B1</sub> = -I <sub>B2</sub> = 1.4A, L = 500 μH, clamped	500			V

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\* : For the h<sub>FE(1)</sub> of the 2SC4459, specify two ranks or more in principle.

15 L 30	20 M 40	30 N 50
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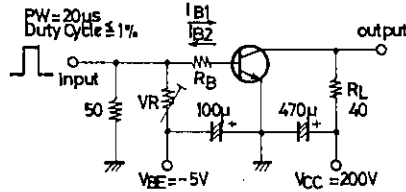
**Package Dimensions 2039A**  
(unit: mm)



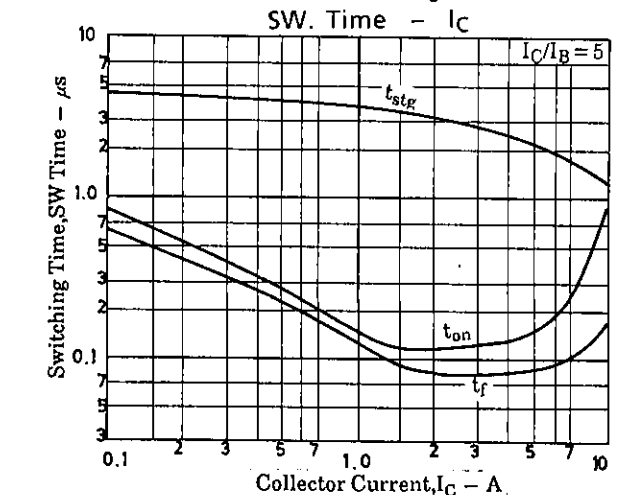
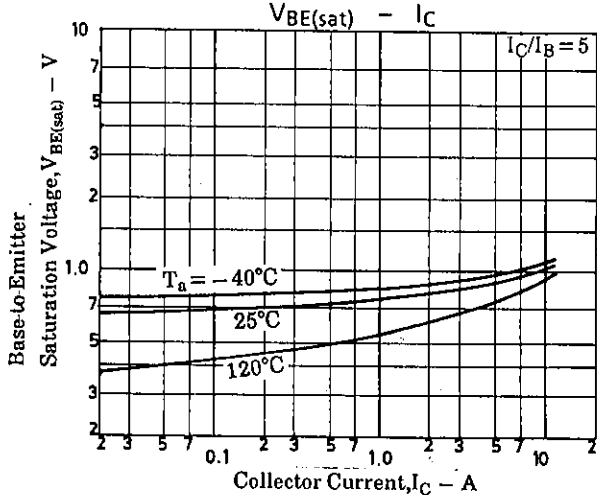
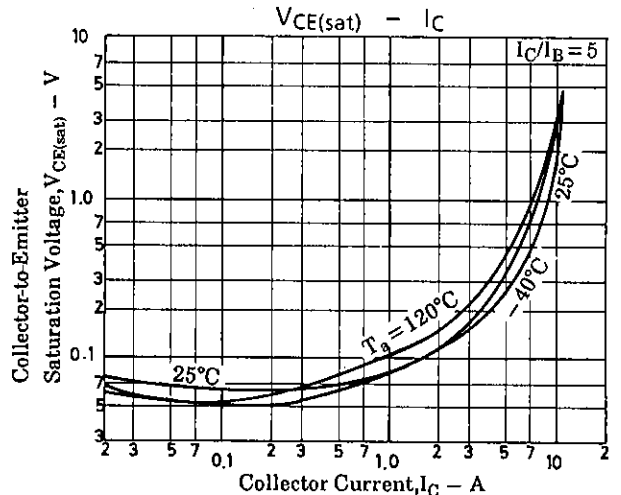
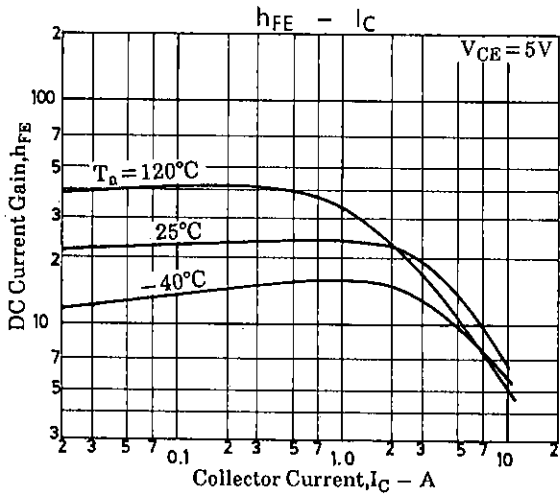
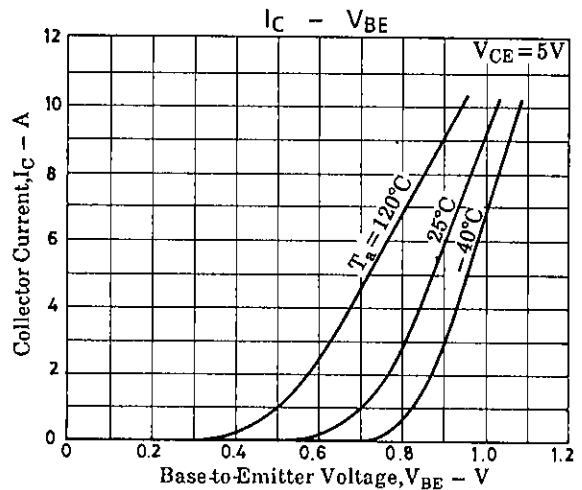
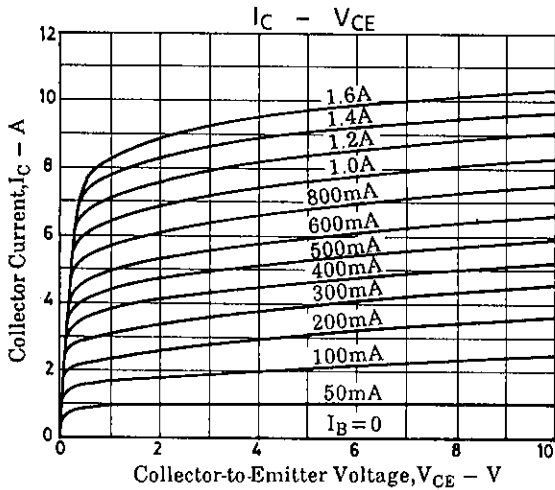
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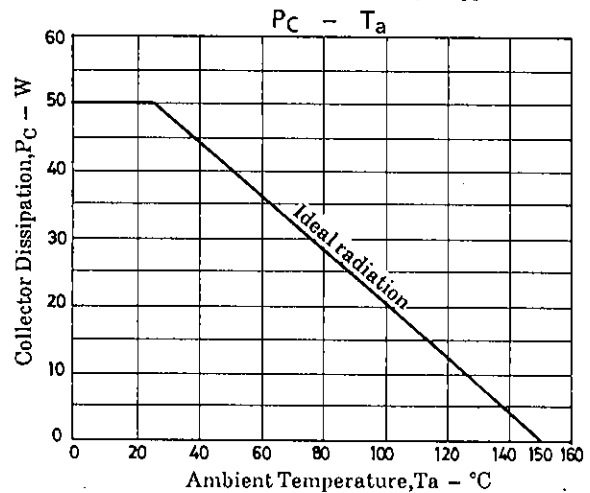
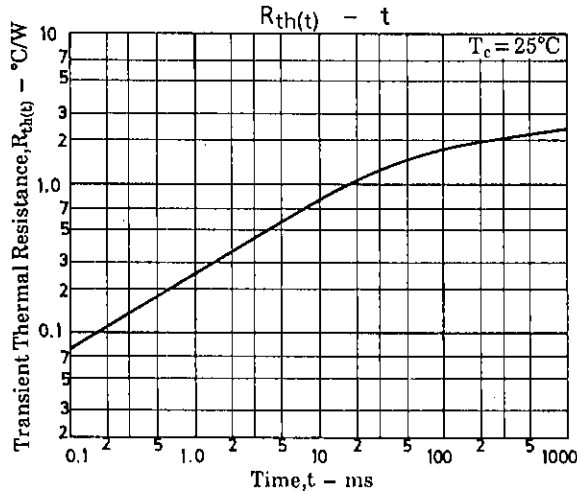
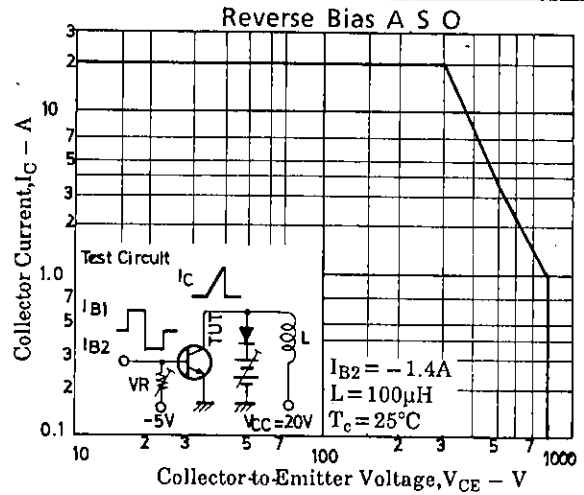
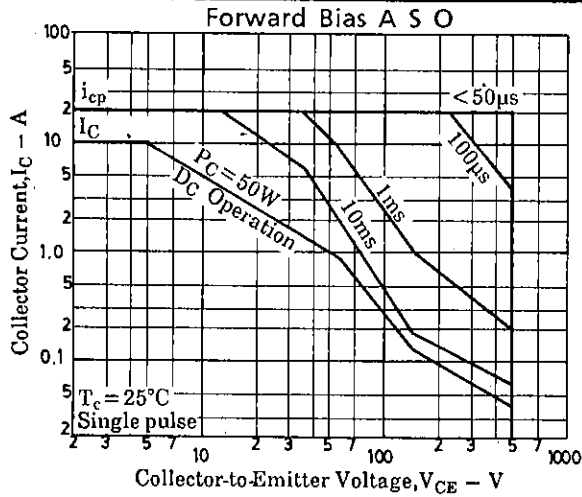
			min	typ	max	unit
Turn-ON time	$t_{on}$	$V_{CC} = 200V,$ $5I_{B1} = -2.5I_{B2} = I_C = 5A,$ $R_L = 40\Omega$			0.5	$\mu s$
Storage Time	$t_{stg}$				3.0	$\mu s$
Fall Time	$t_f$				0.3	$\mu s$

Switching Time Test Circuit



Unit (resistance:  $\Omega$ , capacitance: F)





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