

**SANYO**

No.2852

**2SC4429**

NPN Triple Diffused Planar Silicon Transistor

Switching Regulator Applications

**Features**

- High breakdown voltage, high reliability
- Fast switching speed ( $t_f$ : 0.1 $\mu$ s typ)
- Wide ASO
- Adoption of MBIT process
- Micaless package facilitating easy mounting

**Absolute Maximum Ratings at  $T_a = 25^\circ\text{C}$** 

			unit
Collector-to-Base Voltage	$V_{CB0}$	1100	V
Collector-to-Emitter Voltage	$V_{CEO}$	800	V
Emitter-to-Base Voltage	$V_{EBO}$	7	V
Collector Current	$I_C$	8	A
Peak Collector Current	$i_{cp}$	$PW \leq 300\mu\text{s}, \text{duty cycle} \leq 10\%$	25 A
Base Current	$I_B$	4	A
Collector Dissipation	$P_C$	3	W
		$T_C = 25^\circ\text{C}$	60 W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

**Electrical Characteristics at  $T_a = 25^\circ\text{C}$** 

			min	typ	max	unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 800\text{V}, I_E = 0$			10	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 5\text{V}, I_C = 0$			10	$\mu\text{A}$
DC Current Gain	$h_{FE(1)*}$	$V_{CE} = 5\text{V}, I_C = 0.6\text{A}$	10		40	
	$h_{FE(2)}$	$V_{CE} = 5\text{V}, I_C = 3\text{A}$	8			
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = 4\text{A}, I_B = 0.8\text{A}$			2.0	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = 4\text{A}, I_B = 0.8\text{A}$			1.5	V
Gain-Bandwidth Product	$f_T$	$V_{CE} = 10\text{V}, I_C = 0.6\text{A}$		15		MHz
Output Capacitance	$c_{ob}$	$V_{CB} = 10\text{V}, f = 1\text{MHz}$		155		pF
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 1\text{mA}, I_E = 0$	1100			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 5\text{mA}, R_{BE} = \infty$	800			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 1\text{mA}, I_C = 0$	7			V
C-E Sustain Voltage	$V_{CEX(sus)}$	$I_C = 4\text{A}, I_{B1} = 0.8\text{A}$ $I_{B2} = -0.8\text{A}, L = 1\text{mH}, \text{clamped}$	800			V

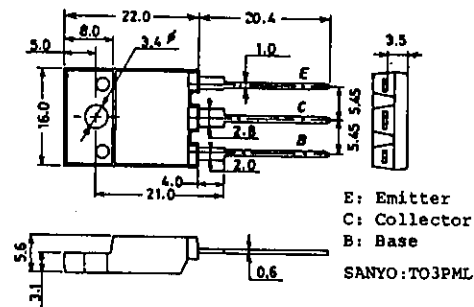
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\*: The  $h_{FE(1)}$  of the 2SC4429 is classified as follows. When specifying the  $h_{FE(1)}$  rank, specify two ranks or more in principle.

10	K	20	15	L	30	20	M	40
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**Package Dimensions 2039**

(unit: mm)

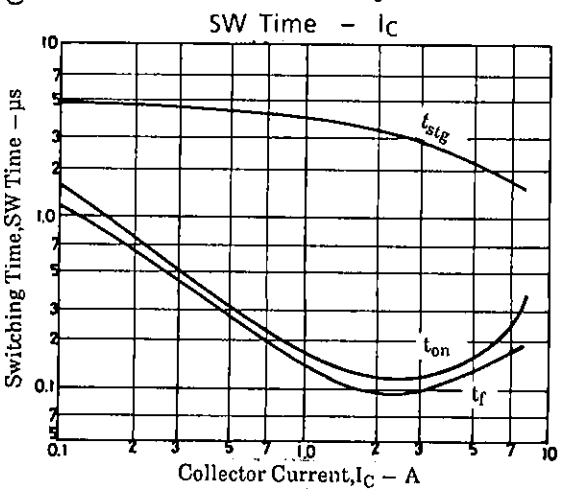
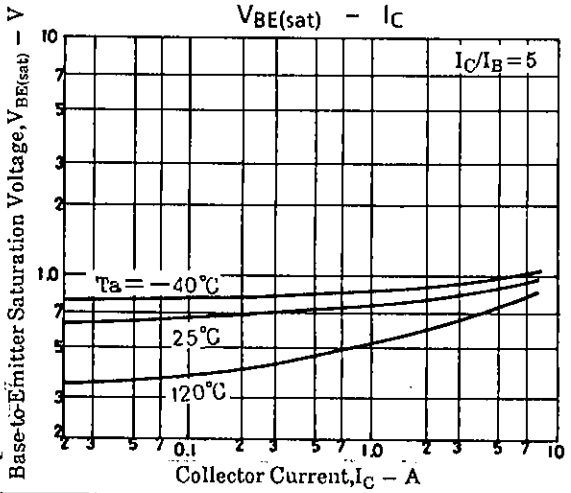
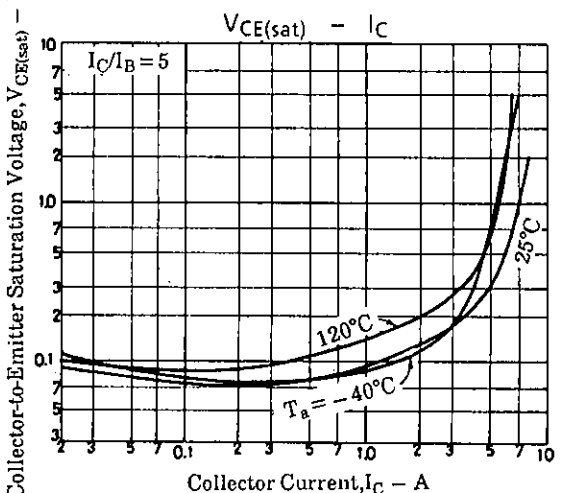
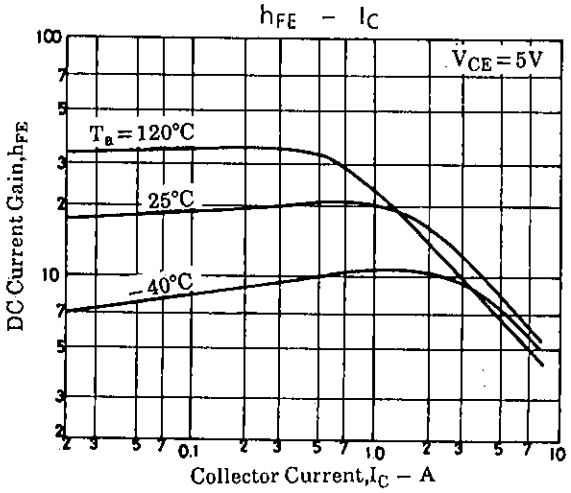
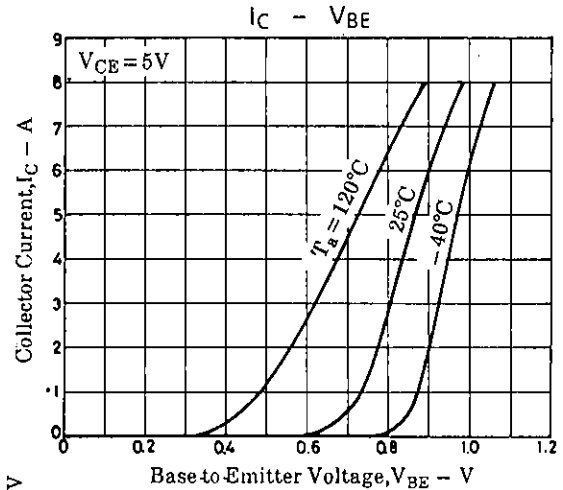
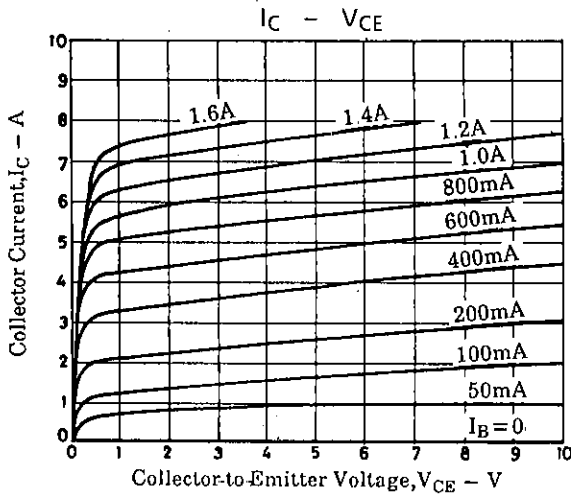
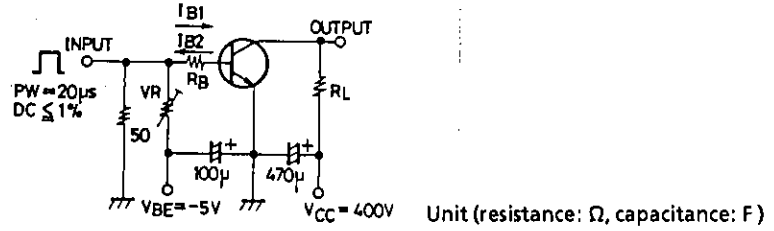
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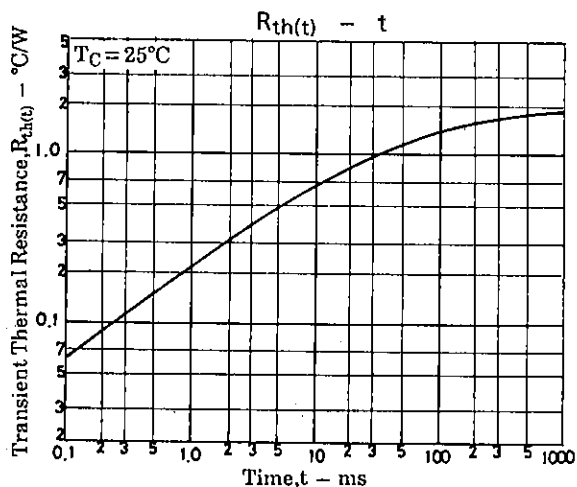
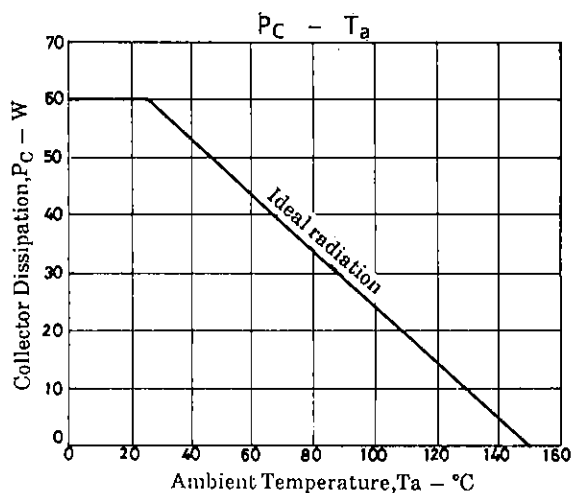
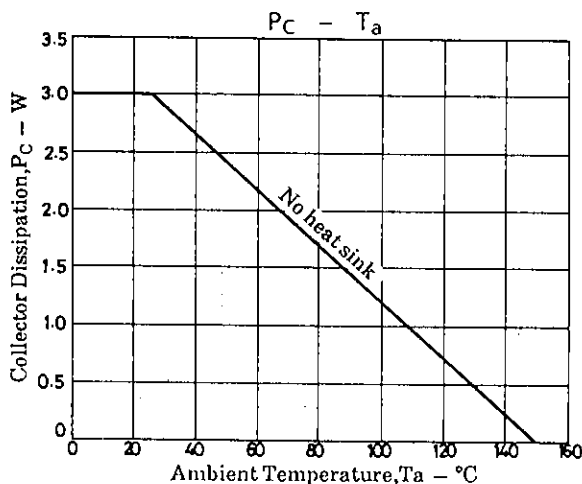
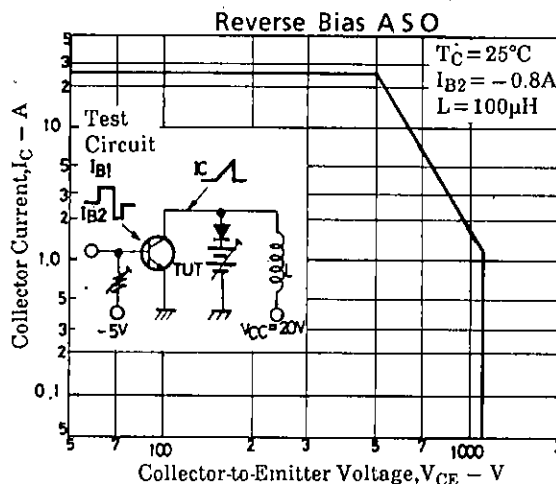
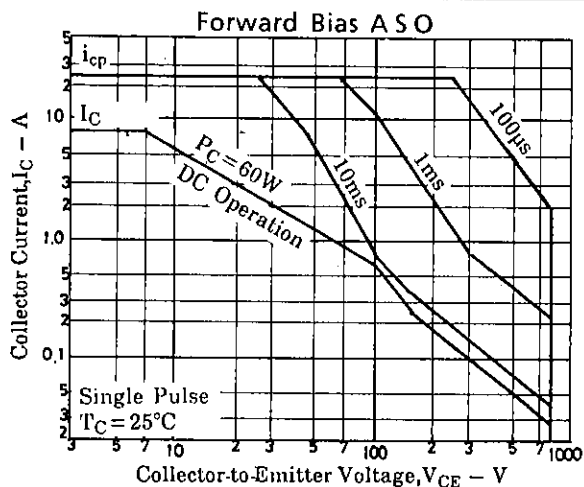
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			min	typ	max	unit
Turn-on Time	$t_{on}$	$I_C = 6A, I_{B1} = 1.2A$ $I_{B2} = -2.4A, R_L = 66.7\Omega$ $V_{CC} = 400V$			0.5	$\mu s$
Storage Time	$t_{stg}$				3.0	$\mu s$
Fall Time	$t_f$				0.3	$\mu s$

Switching Time Test Circuit





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