	No.2848	<h1 style="margin: 0;">2SC4425</h1> <p style="margin: 0;">NPN Triple Diffused Planar Silicon Transistor</p> <p style="margin: 0;">Switching Regulator Applications</p>
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**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  $T_a = 25^\circ\text{C}$**

Collector-to-Base Voltage	$V_{CB0}$		500	V
Collector-to-Emitter Voltage	$V_{CE0}$		400	V
Emitter-to-Base Voltage	$V_{EB0}$		7	V
Collector Current	$I_C$		25	A
Peak Collector Current	$i_{cp}$	$PW \leq 300\mu\text{s}, \text{duty cycle} \leq 10\%$	40	A
Base Current	$I_B$		8	A
Collector Dissipation	$P_C$		3	W
$T_C = 25^\circ\text{C}$				
Junction Temperature	$T_j$		65	W
Storage Temperature	$T_{stg}$		150	$^\circ\text{C}$
			-55 to +150	$^\circ\text{C}$

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

			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 400\text{V}, I_E = 0$			10	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 5\text{V}, I_C = 0$			10	$\mu\text{A}$
DC Current Gain	$h_{FE(1)*}$	$V_{CE} = 5\text{V}, I_C = 3.2\text{A}$	15		50	
	$h_{FE(2)}$	$V_{CE} = 5\text{V}, I_C = 16\text{A}$	10			
	$h_{FE(3)}$	$V_{CE} = 5\text{V}, I_C = 10\text{mA}$	10			
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = 16\text{A}, I_B = 3.2\text{A}$			0.8	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = 16\text{A}, I_B = 3.2\text{A}$			1.5	V
Gain-Bandwidth Product	$f_T$	$V_{CE} = 10\text{V}, I_C = 3.2\text{A}$		20		MHz
Output Capacitance	$c_{ob}$	$V_{CB} = 10\text{V}, f = 1\text{MHz}$		300		pF
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 1\text{mA}, I_E = 0$	500			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10\text{mA}, R_{BE} = \infty$	400			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 1\text{mA}, I_C = 0$	7			V
C-E Sustain Voltage	$V_{CEX(sus)}$	$I_C = 10\text{A}, I_{B1} = 1\text{A}$ $I_{B2} = -4\text{A}, L = 200\mu\text{H}, \text{clamped}$	400			V

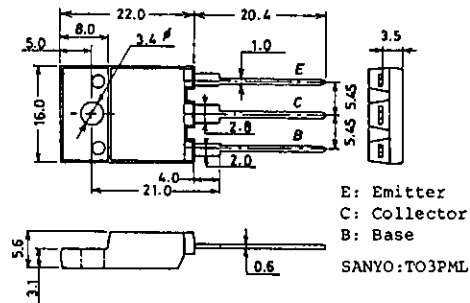
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\*: The  $h_{FE(1)}$  of the 2SC4425 is classified as follows. When specifying the  $h_{FE(1)}$  rank, specify two ranks or more in principle.

15 L 30	20 M 40	30 N 50
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**Package Dimensions 2039**

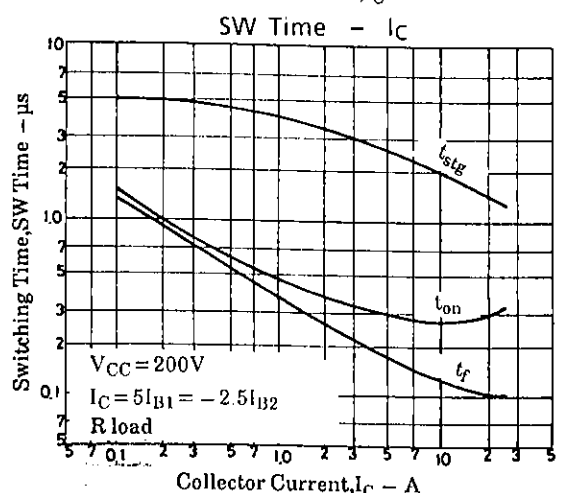
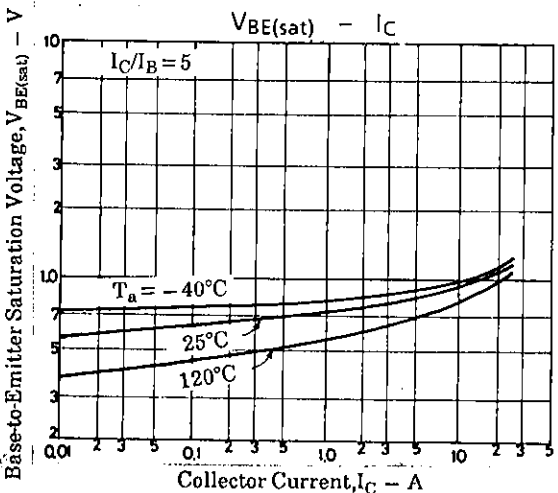
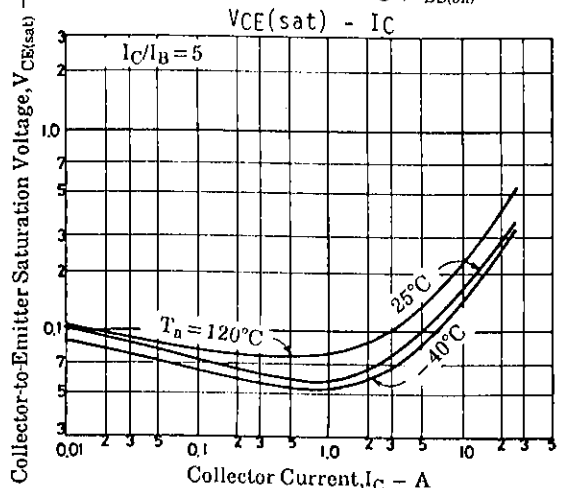
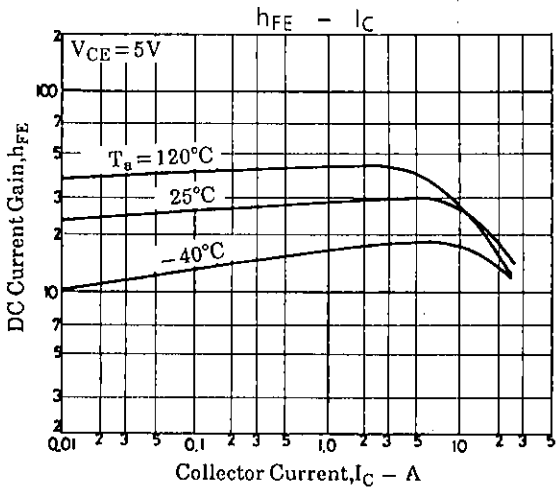
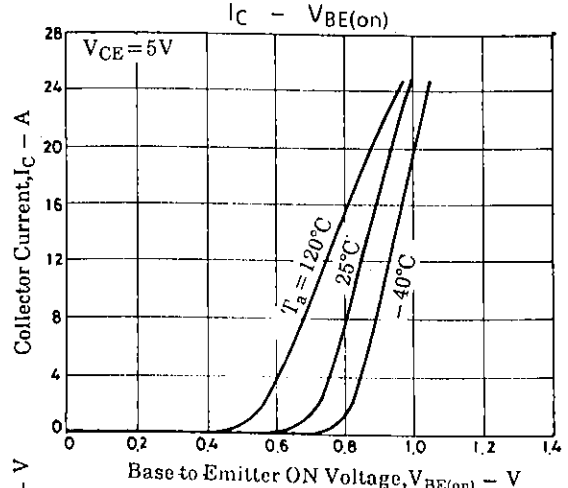
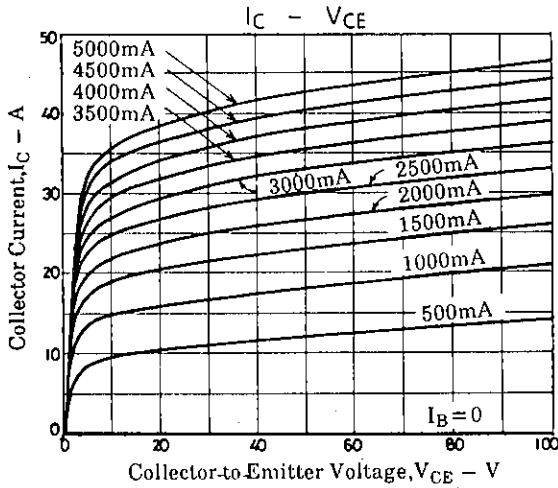
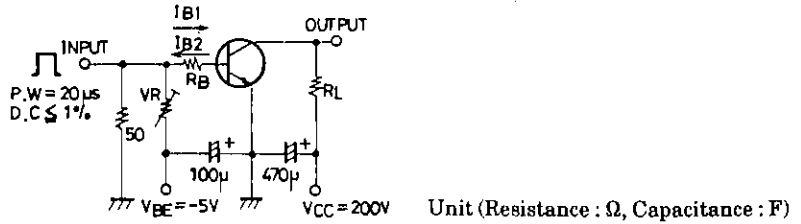
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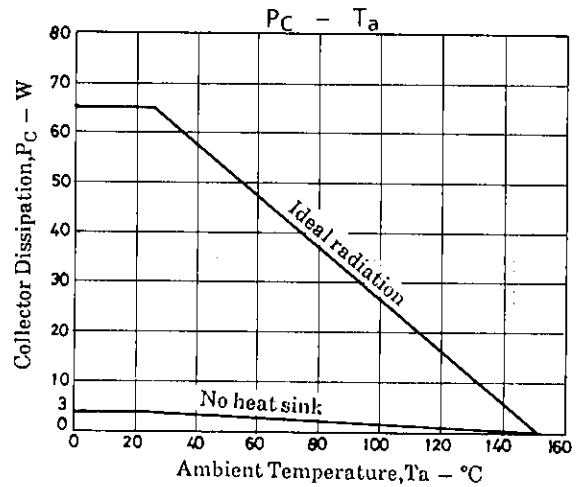
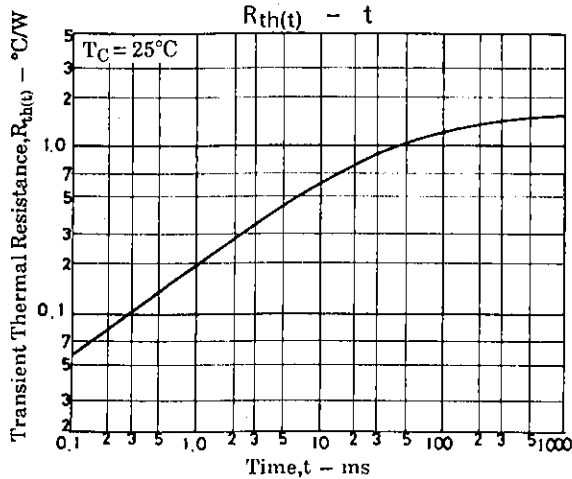
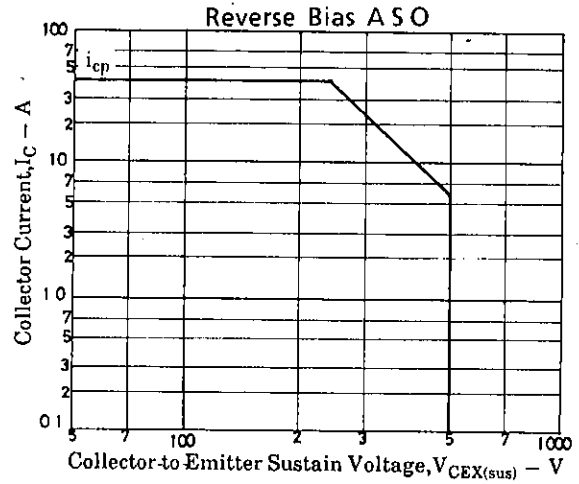
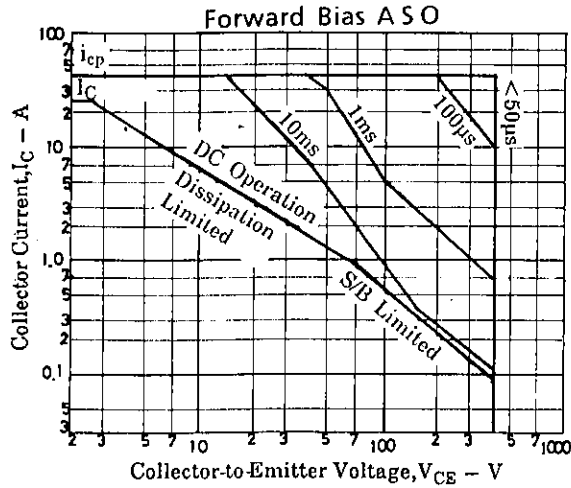


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			min	typ	max	unit
Turn-on Time	$t_{on}$	$I_C = 20A, I_{B1} = 4A$ $I_{B2} = -8A, R_L = 10\Omega$ $V_{CC} = 200V$			0.5	$\mu s$
Storage Time	$t_{stg}$				2.5	$\mu s$
Fall Time	$t_f$				0.3	$\mu s$

Switching Time Test Circuit





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