

SANYO

No.2763

2SC4224

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
- Suitable for sets whose height is restricted

Absolute Maximum Ratings at $T_a=25^\circ C$

			unit
Collector to Base Voltage	V_{CB0}	1100	V
Collector to Emitter Voltage	V_{CE0}	800	V
Emitter to Base Voltage	V_{EB0}	7	V
Collector Current	I_C	3	A
Peak Collector Current	i_{cp}	$PW \leq 300\mu s, \text{duty cycle} \leq 10\%$	10 A
Base Current	I_B	1.5	A
Collector Dissipation	P_C	$T_a=25^\circ C$	1.65 W
		$T_c=25^\circ C$	50 W
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature	T_{stg}	-55 to +150	$^\circ C$

Electrical Characteristics at $T_a=25^\circ C$

			min	typ	max	unit
Collector Cutoff Current	I_{CB0}	$V_{CB}=800V, I_E=0$			10	μA
Emitter Cutoff Current	I_{EB0}	$V_{EB}=5V, I_C=0$			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

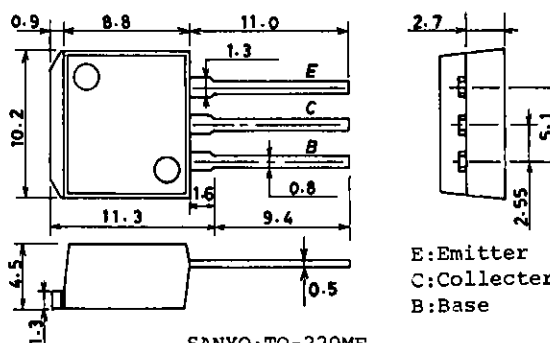
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*: The $h_{FE(1)}$ of the 2SC4224 is classified as follows. When specifying the $h_{FE(1)}$ rank, specify two ranks or more in principle.

10	K	20	15	L	30	20	M	40
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Package Dimensions 2049

(unit: mm)

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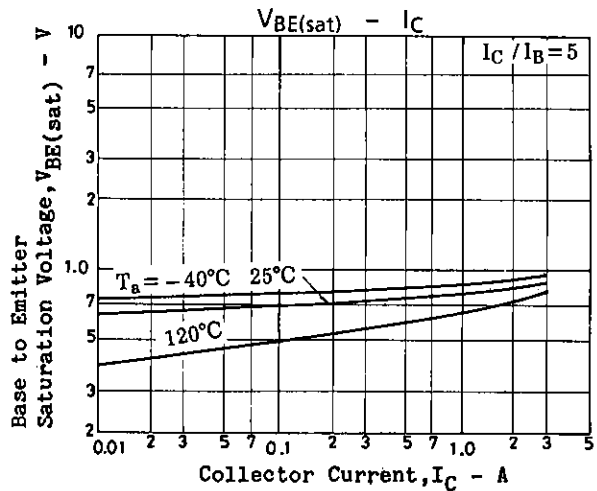
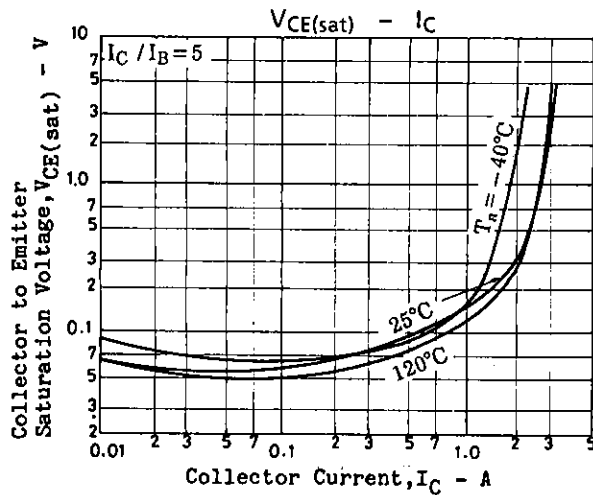
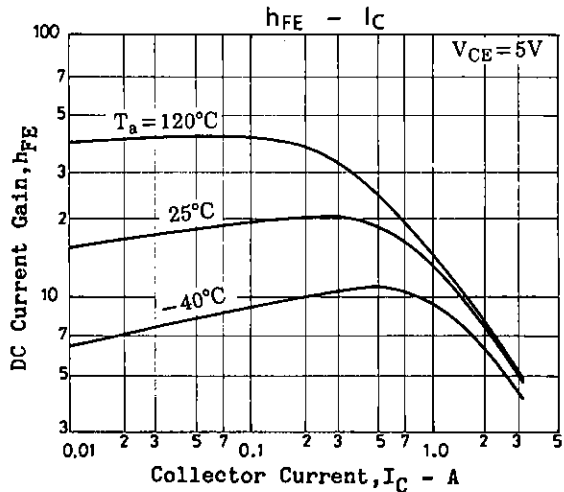
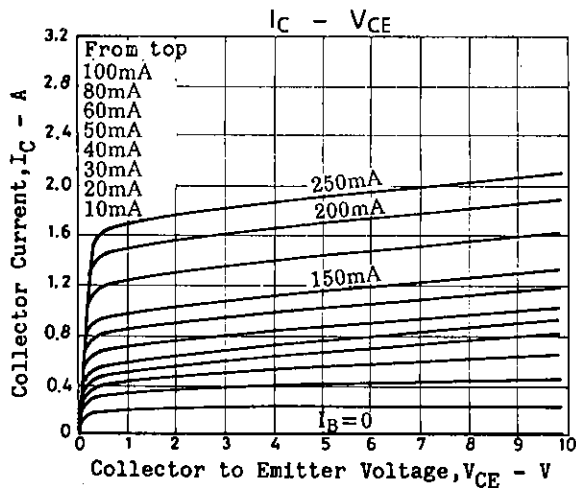
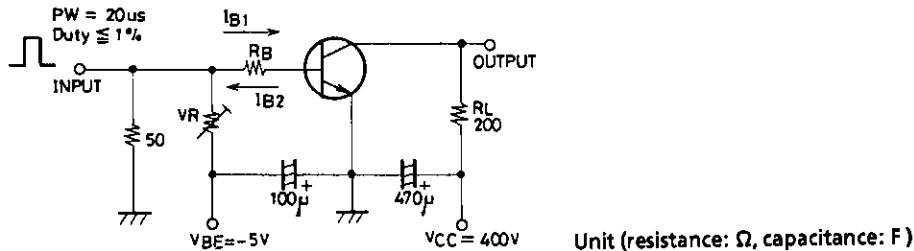
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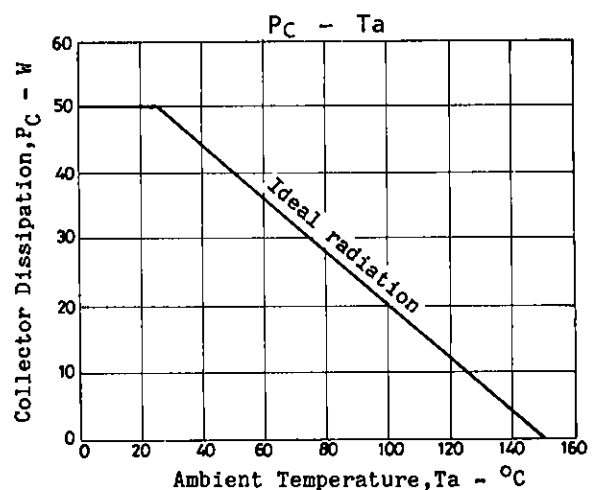
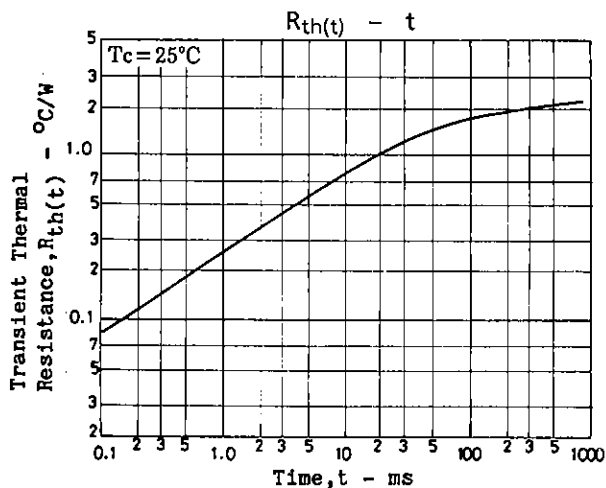
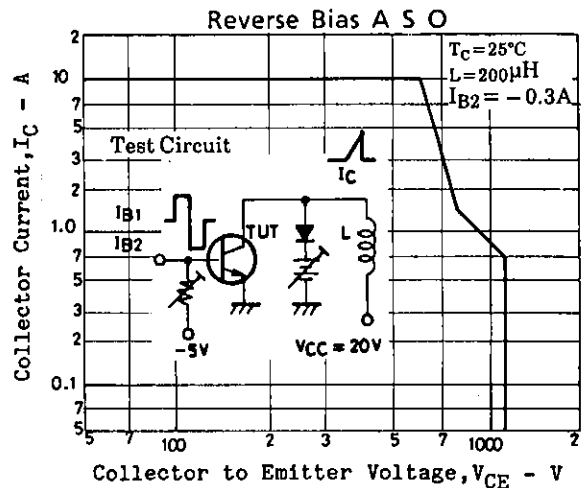
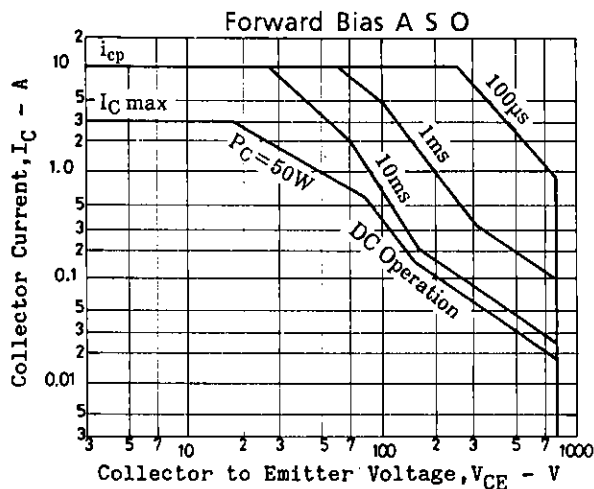
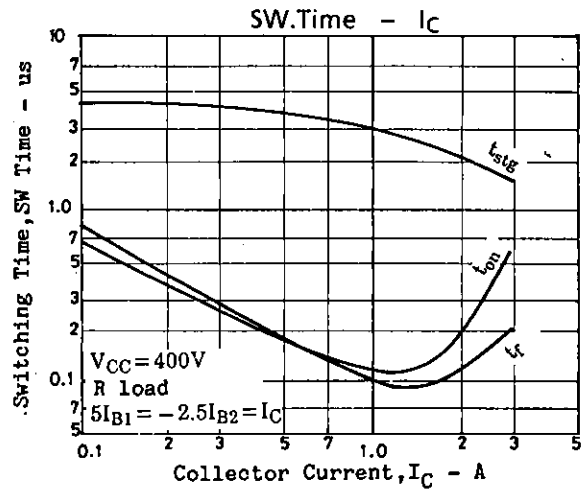
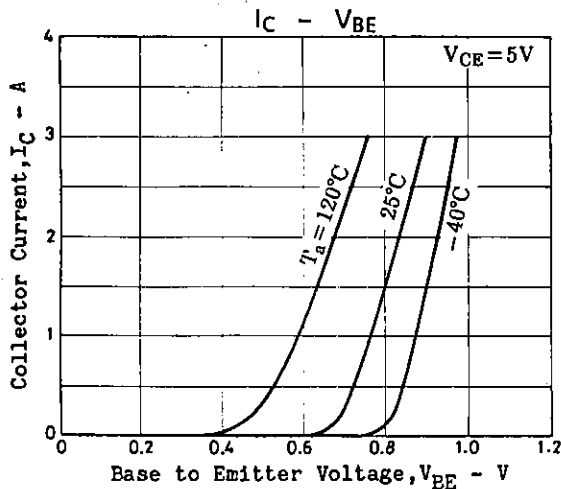
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			min	typ	max	unit
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=1.5A, I_B=0.3A$			2.0	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=1.5A, I_B=0.3A$			1.5	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1mA, I_E=0$	1100			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=5mA, R_{BE}=\infty$	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
Rise Time	t_{on}	$I_B1=-I_B2=0.3A,$ $L=2mH, \text{clamped}$			0.5	μs
Storage Time	t_{stg}	$I_C=2A, I_B1=0.4A,$ $I_B2=-0.8A, R_L=200\Omega,$			3.0	μs
Fall Time	t_f	$V_{CC}=400V$			0.3	μs

Switching Time Test Circuit





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