

SANYO

No.1544B

2SC3446

NPN Triple Diffused Planar Silicon Transistor
FOR SWITCHING REGULATORS

Features

- High breakdown voltage and high reliability
- Fast switching speed (t_f : 0.1 μ s typ.)
- Wide ASO
- Adoption of MBIT process

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

Absolute Maximum Ratings at $T_A=25^\circ\text{C}$				unit
Collector-to-Base Voltage	V_{CBO}		800	V
Collector-to-Emitter Voltage	V_{CEO}		500	V
Emitter-to-Base Voltage	V_{EBO}		7	V
Collector Current	I_C		3	A
Peak Collector Current	i_{cp}	$PW \leq 300\mu\text{s}, \text{Duty Cycle} \leq 10\%$	6	A
Base Current	I_B		1	A
Collector Dissipation	P_C	$T_C=25^\circ\text{C}$	40	W
Junction Temperature	T_j		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

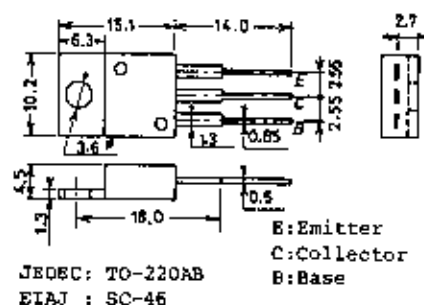
Electrical Characteristics at $T_a=25^\circ\text{C}$

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=500\text{V}$, $I_E=0$			10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5\text{V}$, $I_C=0$			10	μA
DC Current Gain	$h_{FE}(1)$	$V_{CE}=5\text{V}$, $I_C=0.3\text{A}$	15*			
	$h_{FE}(2)$	$V_{CE}=5\text{V}$, $I_C=1.5\text{A}$	8			
Gain Bandwidth Product	f_T	$V_{CE}=10\text{V}$, $I_C=0.3\text{A}$		18		MHz
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}$, $f=1\text{MHz}$		50		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=1.5\text{A}$, $I_B=0.3\text{A}$			1.0	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=1.5\text{A}$, $I_B=0.3\text{A}$			1.5	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1\text{mA}$, $I_E=0$	800			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=5\text{mA}$, $R_{BE}=\infty$	500			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1\text{mA}$, $I_C=0$	7			V

*: The $h_{FE}(1)$ of the 2SC3446 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 2010A
(unit:mm)

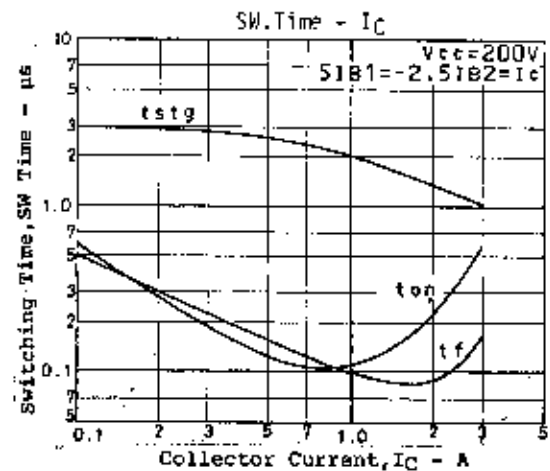
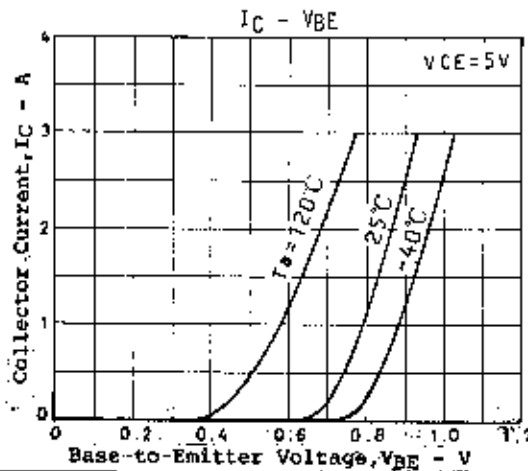
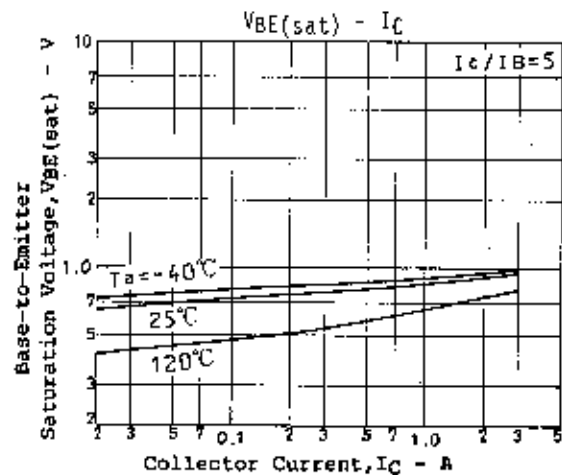
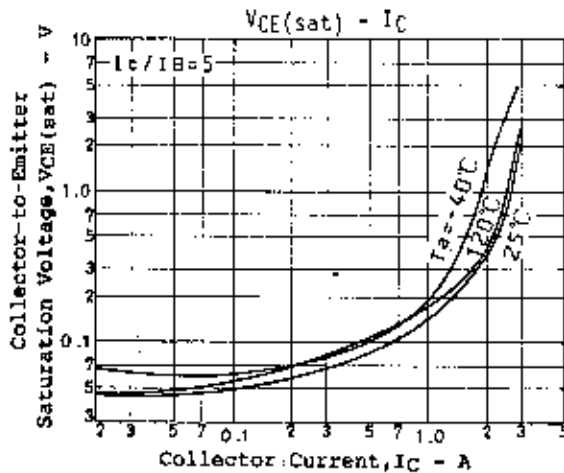
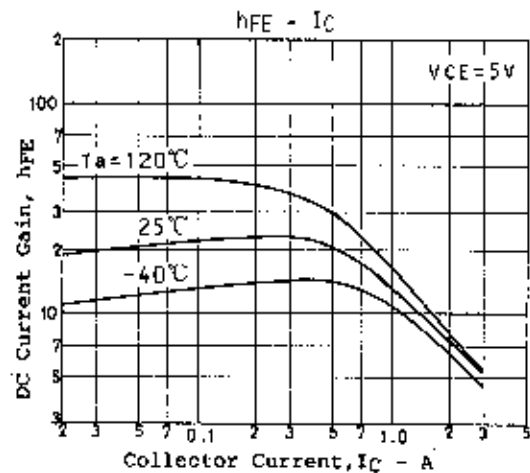
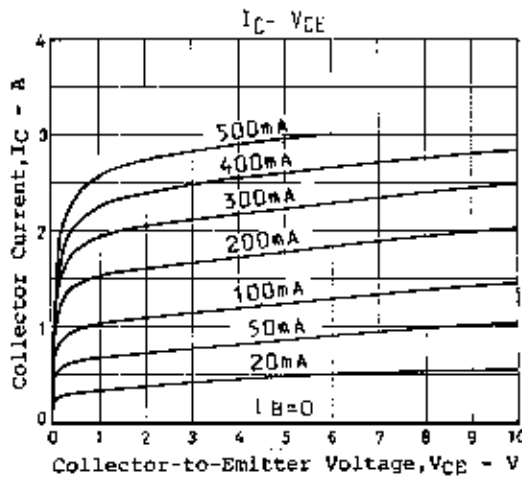
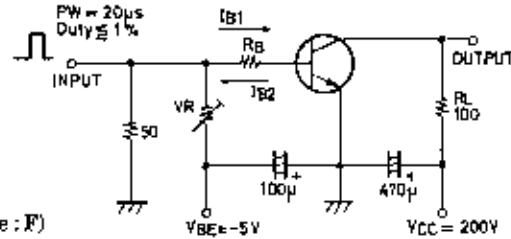
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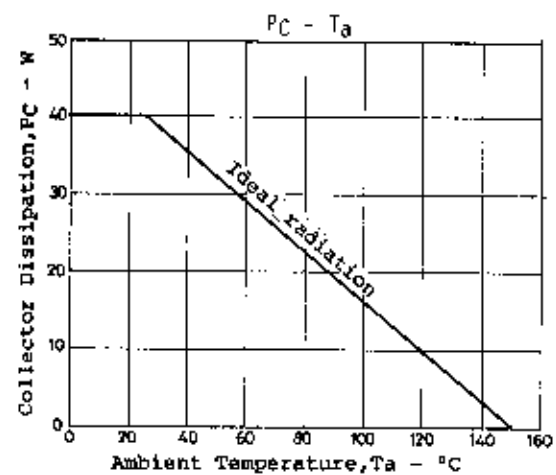
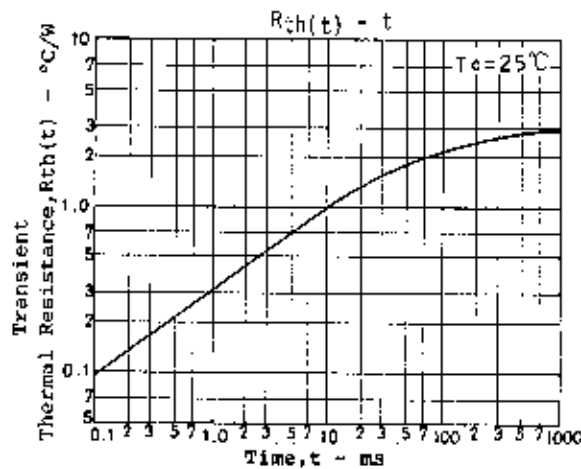
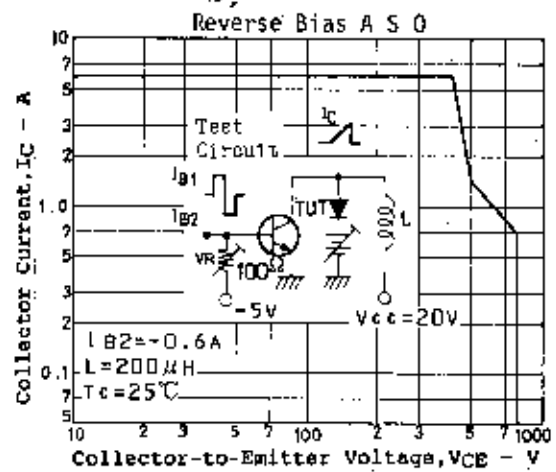
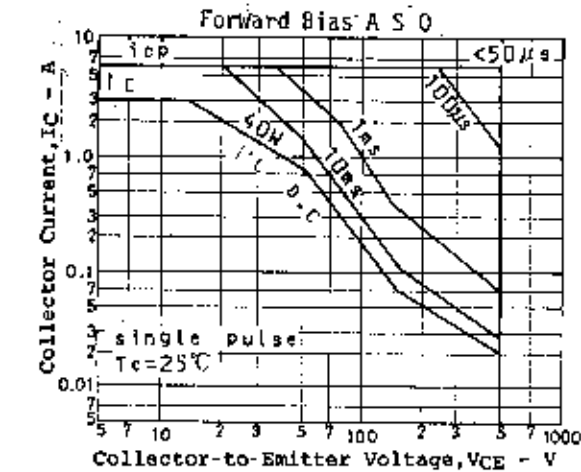
4217KI/3085KI/6154KI, MT No.1544-1/3

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			min	typ	max	unit
C-E Sustain Voltage	$V_{CE(sus)}$	$I_C=1.5A$ $I_{B1}=-I_{B2}=0.6A$ $L=2mH$, clamped	500			V
Turn-on Time	t_{on}	$V_{CC}=200V$, $5I_{B1}=-2.5I_{B2}=I_C=2A$, $R_L=100\Omega$			0.5	μs
Storage Time	t_{stg}				3.0	μs
Fall Time	t_f				0.3	μs

Switching Time Test Circuit





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