

**SANYO**

No. 1580C

**2SC3457**

NPN Triple Diffused planar Type Silicon Transistor  
FOR SWITCHING REGULATORS

**Features**

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

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

			unit
Collector-to-Base Voltage	V <sub>CB0</sub>	1100	V
Collector-to-Emitter Voltage	V <sub>CEO</sub>	800	V
Emitter-to-Base Voltage	V <sub>EBO</sub>	7	V
Collector Current	I <sub>C</sub>	3	A
Peak Collector Current	i <sub>cp</sub>	PW <sub>2</sub> ≤300µs, Duty Cycle≤10% 10 A	
Base Current	I <sub>B</sub>	1.5	A
Collector Dissipation	P <sub>C</sub>	Tc=25°C 50 W	
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 to +150 °C	

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

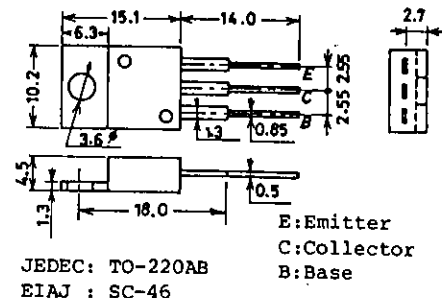
			min	typ	max	unit
Collector Cutoff Current	I <sub>CBO</sub>	V <sub>CB</sub> =800V, I <sub>E</sub> =0			10	µA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =5V, I <sub>C</sub> =0			10	µA
DC Current Gain	h <sub>FE</sub> (1)	V <sub>CE</sub> =5V, I <sub>C</sub> =0.2A	10*		40*	
	h <sub>FE</sub> (2)	V <sub>CE</sub> =5V, I <sub>C</sub> =1A	8			
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =0.2A		15		MHz
Output Capacitance	c <sub>ob</sub>	V <sub>CB</sub> =10V, f=1MHz		60		pF
Collector-to-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =1.5A, I <sub>B</sub> =0.3A			2.0	V
Base-to-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =1.5A, I <sub>B</sub> =0.3A			1.5	V
Collector-to-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =1mA, I <sub>E</sub> =0	1100			V
Collector-to-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =5mA, R <sub>BE</sub> =∞	800			V
Emitter-to-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =1mA, I <sub>C</sub> =0	7			V

Continued on next page.

\*: The h<sub>FE</sub>(1) of the 2SC3457 is classified as follows. When specifying the h<sub>FE</sub>(1) rank, specify two ranks or more in principle.

10 K 20	15 L 30	20 M 40
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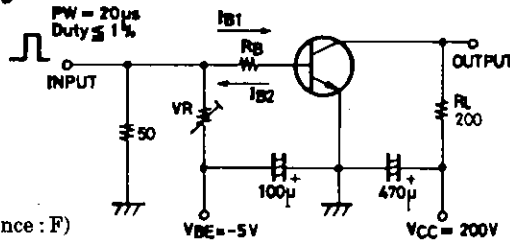
**Package Dimensions 2010A**  
(unit:mm)



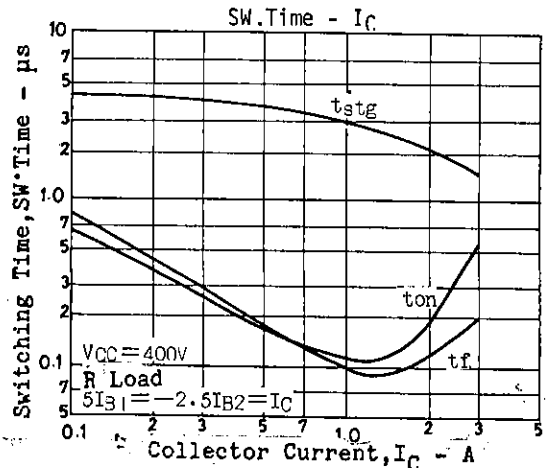
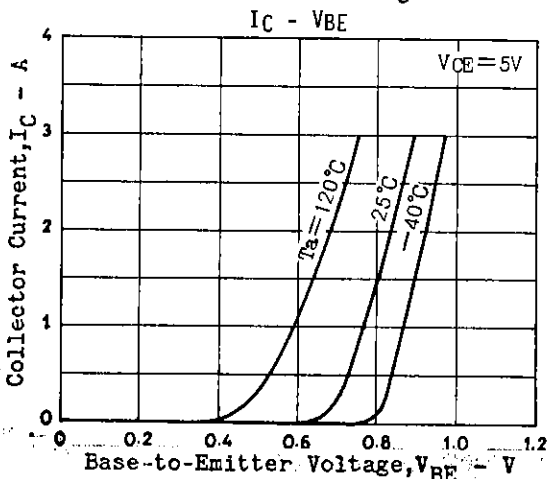
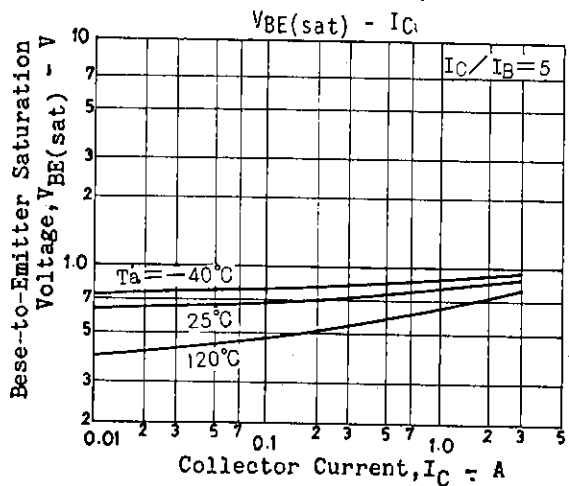
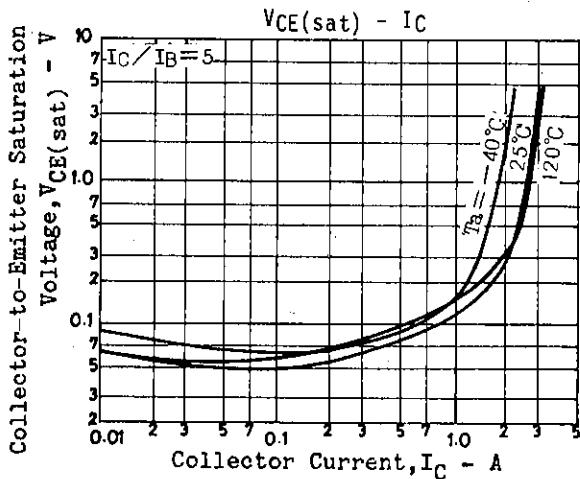
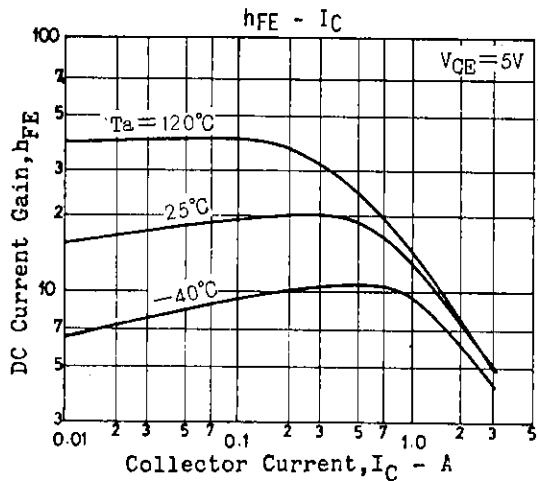
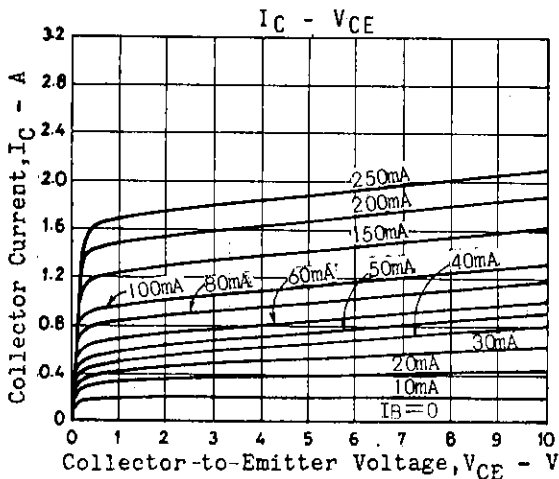
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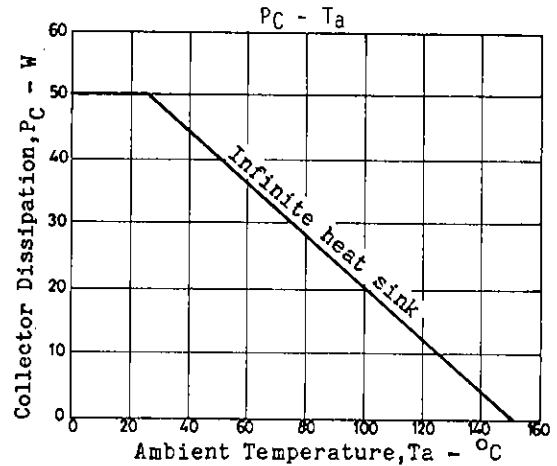
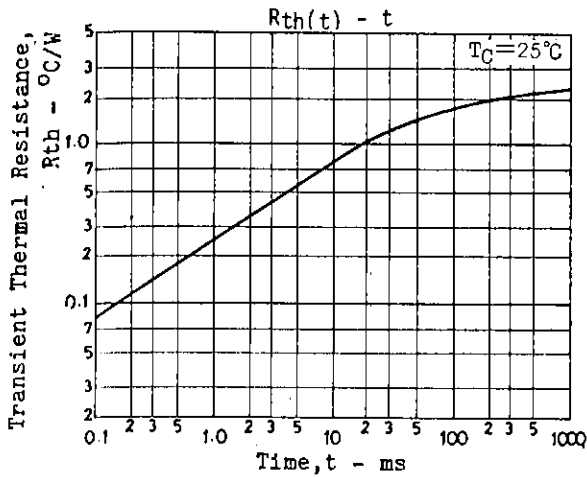
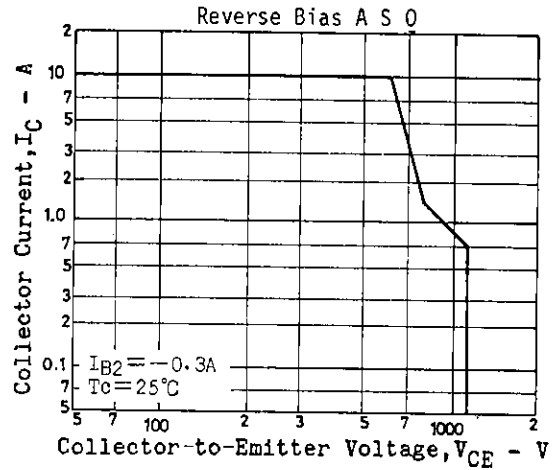
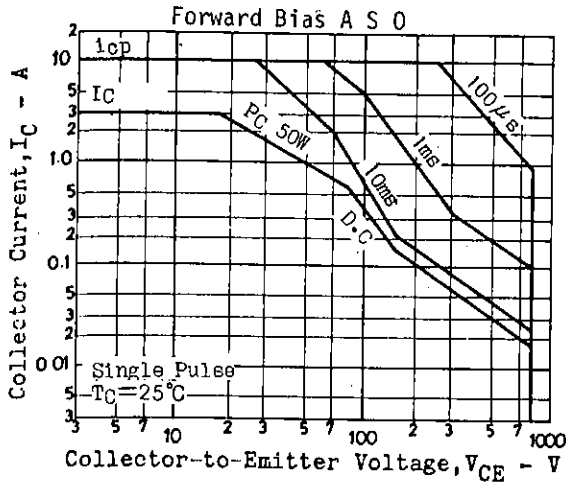
			min	typ	max	unit
Collector-to-Emitter Sustain Voltage	$V_{CEX}(sus)$	$I_C=1.5A$	800			V
Turn-on Time	$t_{on}$	$I_{B1}=-I_{B2}=0.3A$			0.5	$\mu s$
Fall Time	$t_{stg}$	$L=2mH, clamped$			3.0	$\mu s$
Storage Time	$t_f$	$V_{CC}=400V,$ $5I_{B1}=-2.5I_{B2}=I_C=2A$ $R_L=200ohms$			0.3	$\mu s$

Switching Time Test Circuit



Unit (Resistance :  $\Omega$ , Capacitance : F)





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