

<b>SANYO</b>	No. 2018A	2 S C 3 8 0 7
	NPN Epitaxial Planar Silicon Transistor HIGH $h_{FE}$ , LOW FREQUENCY, GENERAL-PURPOSE AMP APPLICATIONS	

**Applications**

- Low frequency general-purpose amplifiers, drivers

**Features**

- Large current capacity ( $I_C=2A$ )
- Adoption of MBIT process
- High DC current gain ( $h_{FE}=800$  to  $3200$ )
- Low collector-to-emitter saturation voltage ( $V_{CE(sat)} \leq 0.5V$ )
- High  $V_{EBO}$  ( $V_{EBO} \geq 15V$ )

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

		unit
Collector to Base Voltage	$V_{CB0}$	30 V
Collector to Emitter Voltage	$V_{CEO}$	25 V
Emitter to Base Voltage	$V_{EBO}$	15 V
Collector Current	$I_C$	2 A
Peak Collector Current	$i_{cp}$	4 A
Collector Dissipation	$P_c$	1.2 W
	$T_c=25^\circ C$	15 W
Junction Temperature	$T_j$	150 $^\circ C$
Storage Temperature	$T_{stg}$	-55 to +150 $^\circ C$

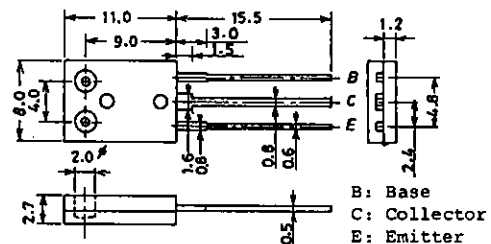
**Electrical Characteristics at  $T_a=25^\circ C$**

		min	typ	max	unit
Collector Cutoff Current	$I_{CBO}$ $V_{CB}=20V, I_E=0$			0.1	$\mu A$
Emitter Cutoff Current	$I_{EBO}$ $V_{EB}=10V, I_C=0$			0.1	$\mu A$
DC Current Gain	$h_{FE(1)}$ $V_{CE}=5V, I_C=500mA$	800	1500	3200	
	$h_{FE(2)}$ $V_{CE}=5V, I_C=1A$	600			
Gain-Bandwidth Product	$f_T$ $V_{CE}=10V, I_C=50mA$		260		MHz
Output Capacitance	$c_{ob}$ $V_{CE}=10V, f=1MHz$		27		pF
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$ $I_C=1A, I_B=20mA$	0.15		0.5	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$ $I_C=1A, I_B=20mA$		0.85	1.2	V
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$ $I_C=10\mu A, I_E=0$	30			V

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**Package Dimensions 2043A**

(unit: mm)



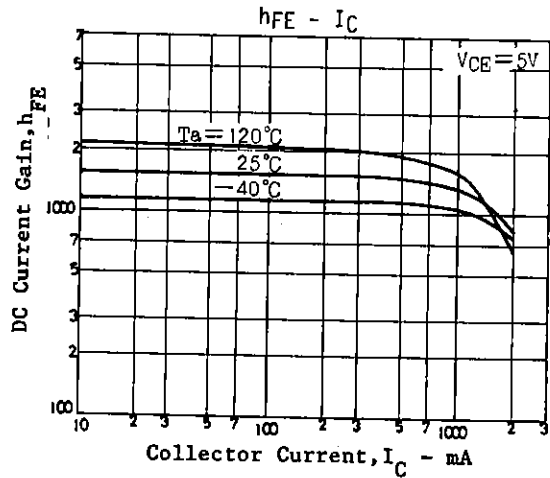
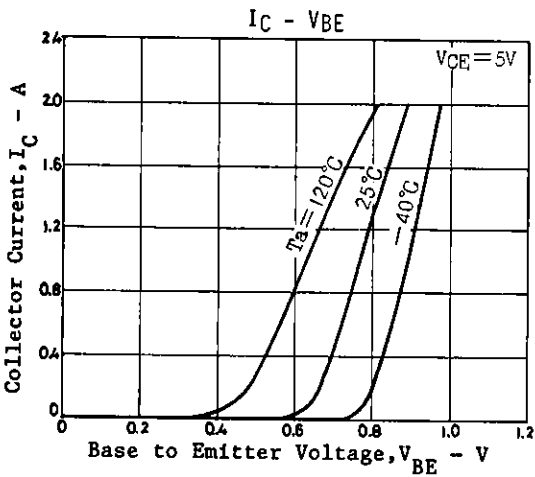
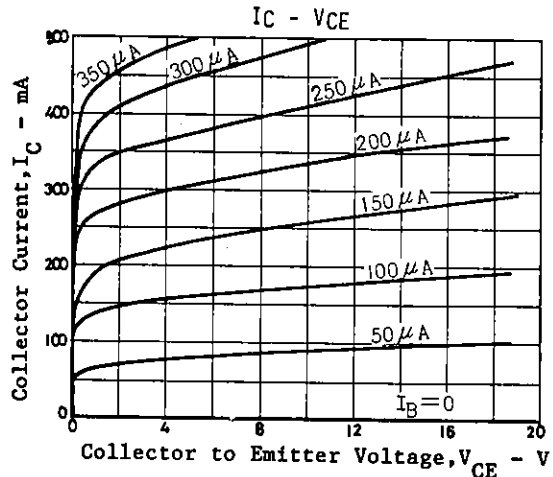
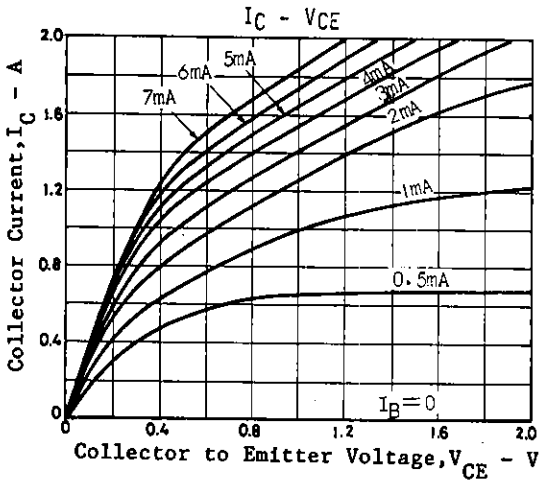
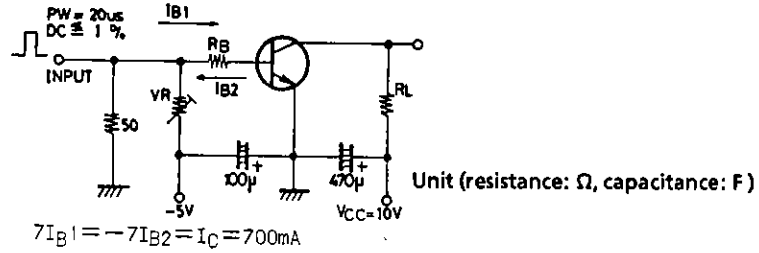
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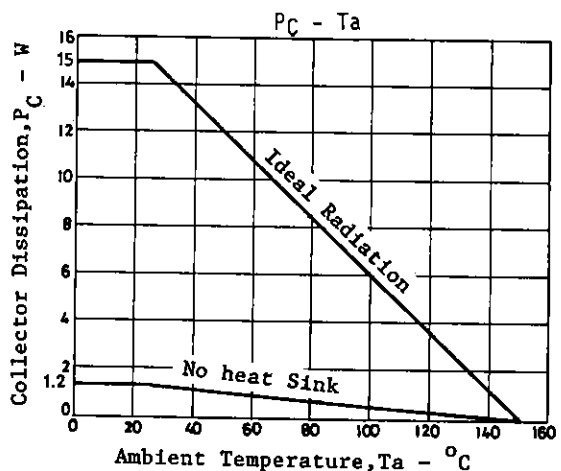
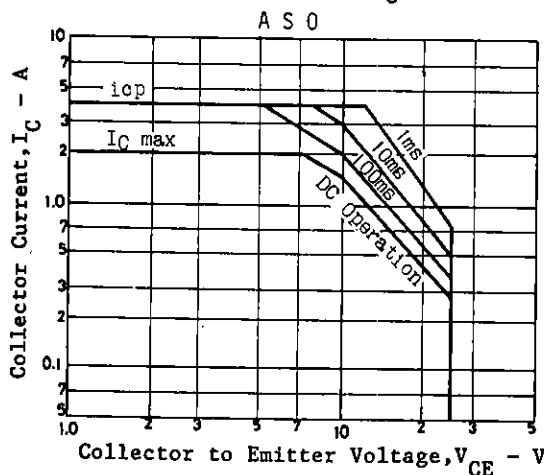
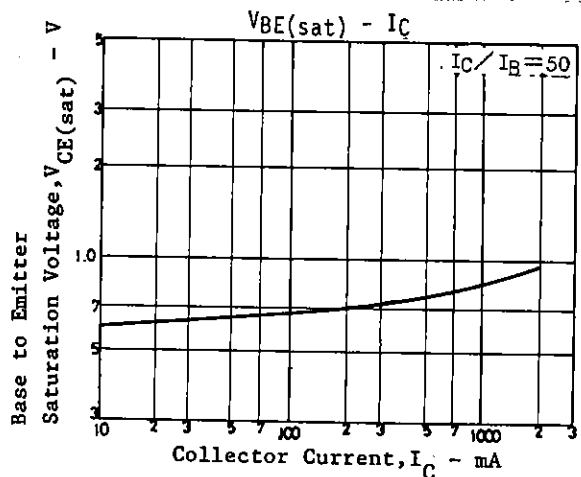
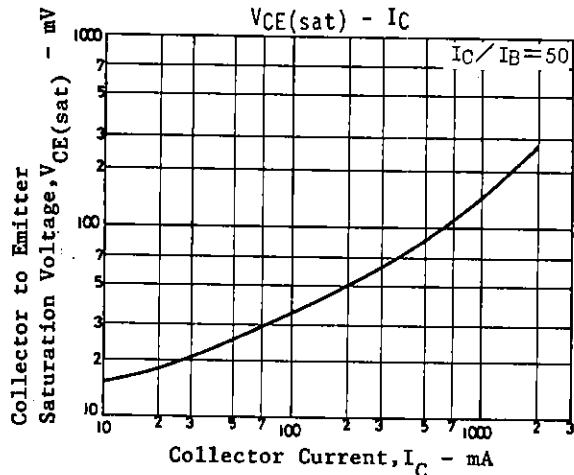
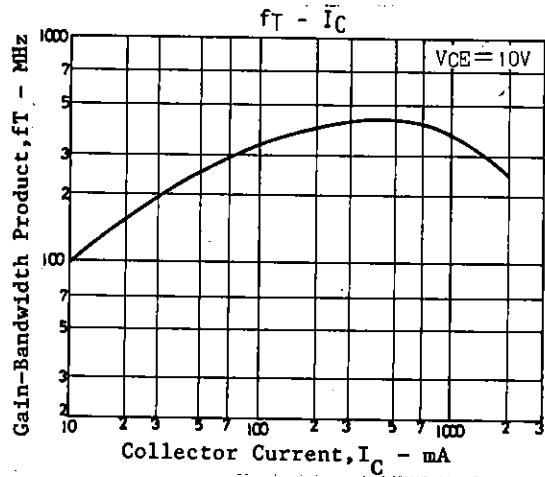
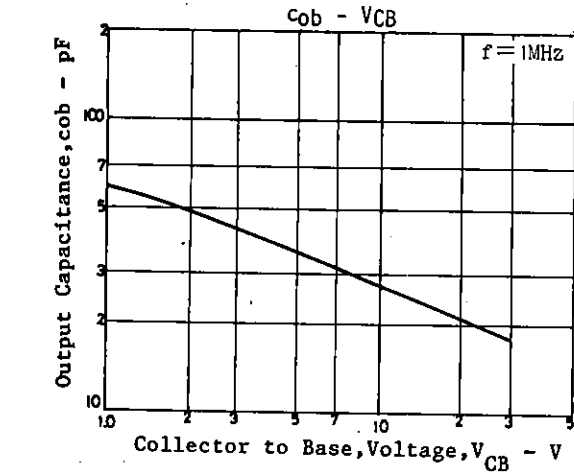
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			min	typ	max	unit
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	25			V
Emitter to Base	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	15			V
Turn-on time	$t_{on}$	See specified Test Circuit.	0.14			$\mu s$
Storage Temperature	$t_{stg}$	"	1.35			$\mu s$
Fall Time	$t_f$	"	0.1			$\mu s$

Switching Time Test Circuit



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