



No.2015A

2 S C 3 8 0 8

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)} ≤ 0.5V)
- High V_{EBO} (V_{EBO} ≥ 15V)

Absolute Maximum Ratings at Ta=25°C

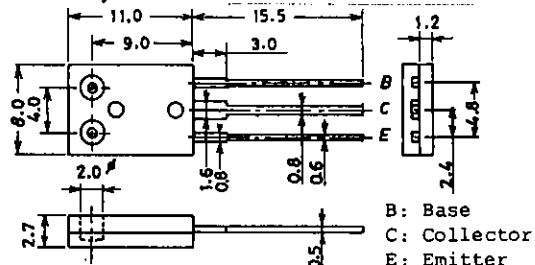
			unit
Collector to Base Voltage	V _{CB0}	80	V
Collector to Emitter Voltage	V _{CEO}	60	V
Emitter to Base Voltage	V _{EBO}	15	V
Collector Current	I _C	2	A
Peak Collector Current	i _{cp}	4	A
Collector Dissipation	P _c	1.2	W
	T _c =25°C	15	W
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55 to +150	°C

Electrical Characteristics at Ta=25°C

		min	typ	max	unit
Collector Cutoff Current	I _{CBO} V _{CB} =50V, I _E =0			1	μA
Emitter Cutoff Current	I _{EBO} V _{EB} =10V, I _C =0			1	μA
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		170		MHz
Output Capacitance	c _{ob} V _{CE} =10V, f _C =1MHz		24		pF
Collector to Emitter Saturation Voltage	V _{CE(sat)} I _C =1A, I _B =20mA		0.2	0.5	V
Base to Emitter Saturation Voltage	V _{BE(sat)} I _C =1A, I _B =20mA		0.87	1.2	V
Collector to Base Breakdown Voltage	V _{(BR)CBO} I _C =10μA, I _E =0	80			V

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Package Dimensions 2043A
(unit: mm)

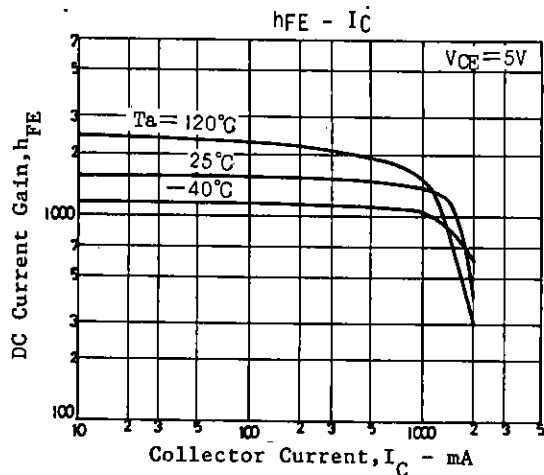
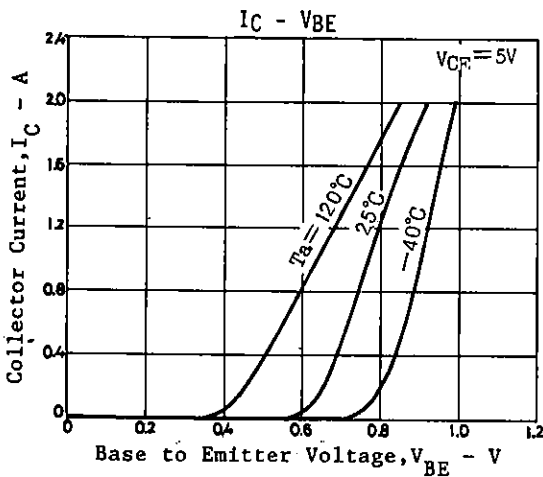
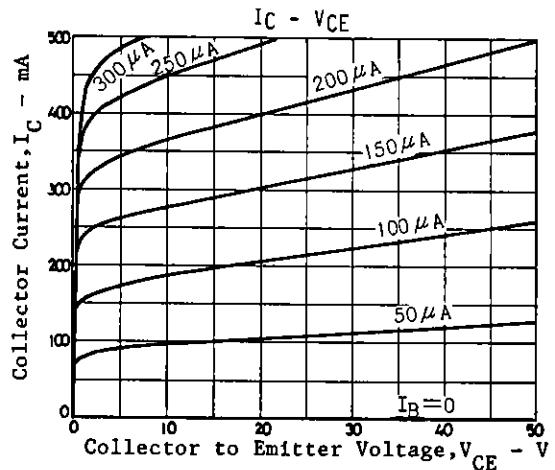
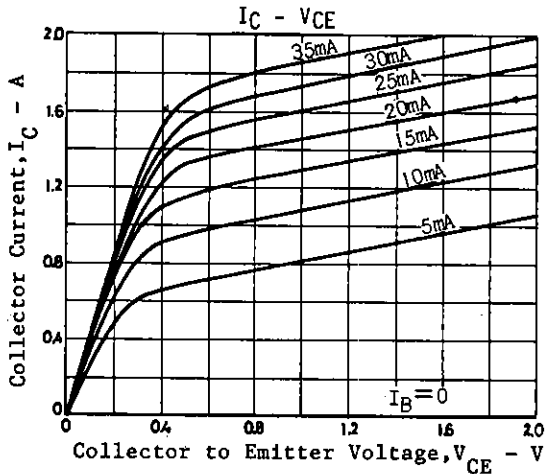
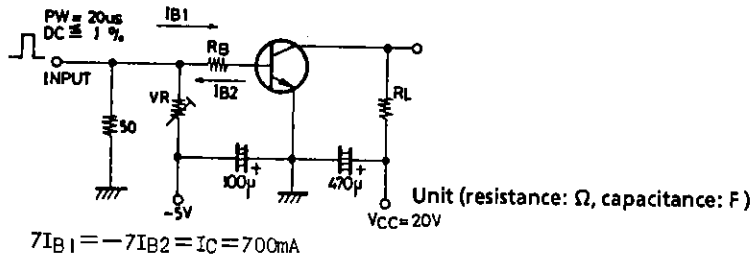


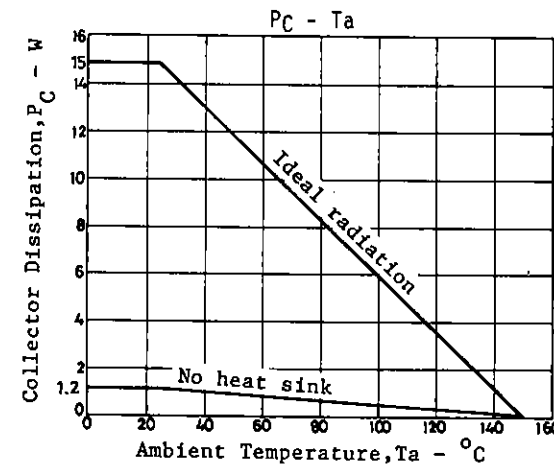
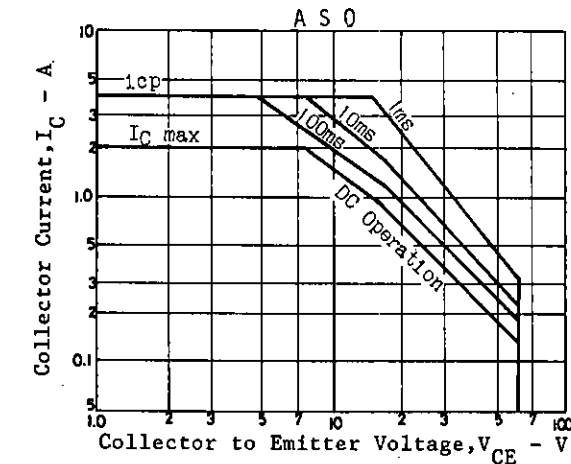
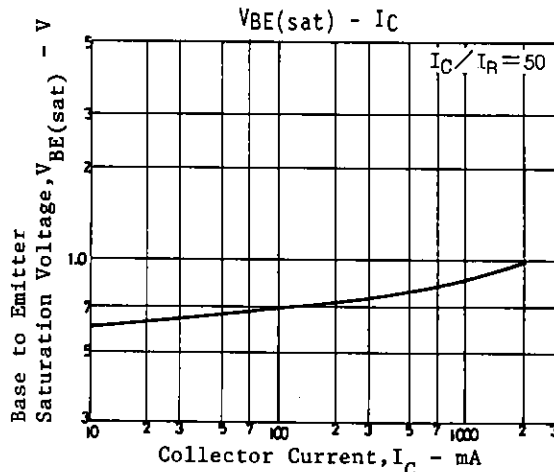
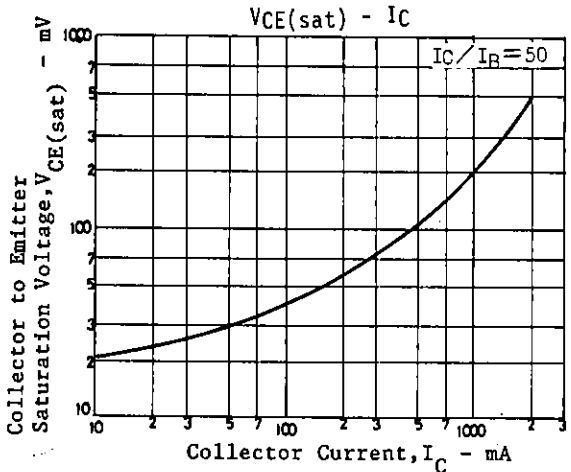
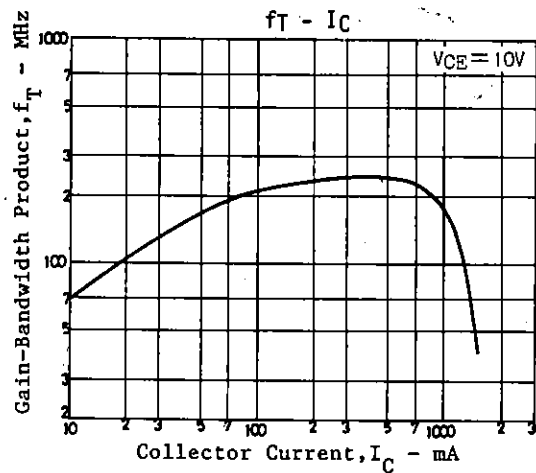
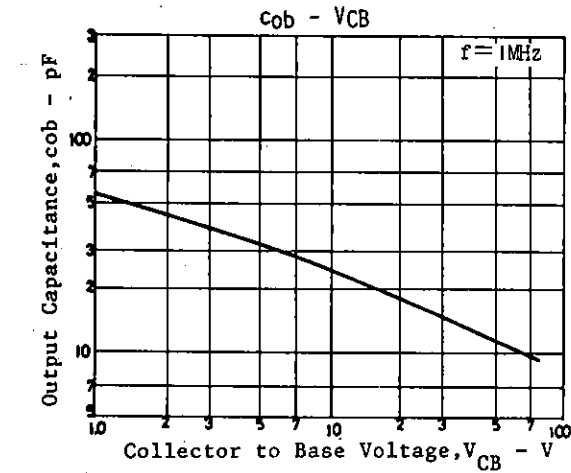
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			min	typ	max	unit
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	60			V
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	15			V
Turn-on Time	t_{on}	See specified Test Circuit.		0.23		μs
Storage Temperature	t_{stg}	"		2.7		μs
Fall Time	t_f	"		0.75		μs

Switching Time Test Circuit





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