

NPN Epitaxial Planar Silicon Transistor



2SC4736

High h_{FE} , Low-Frequency General-Purpose Amplifier Applications

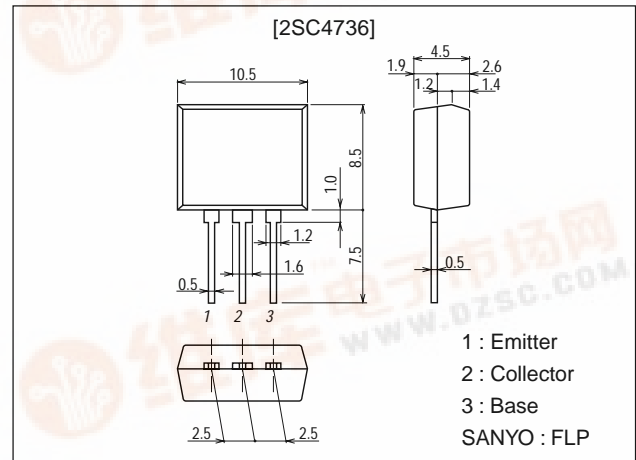
Features

- Large current ($I_C=2A$).
- 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 emitter-to-base voltage ($V_{EBO} \geq 15V$).
- Large power type such as $P_C=1.5W$ when used without heatsink.
- It is possible to make appliances more compact because its height on board is 9.5mm.
- Effective in automatic inserting and counting stocked amount because of being provided for radial taping.

Package Dimensions

unit:mm

2084B



Specifications

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

Parameter	Symbol	Conditions	Ratings	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
Collector Current (Pulse)	I_{CP}		4	A
Base Current	I_B		400	mA
Collector Dissipation	P_C		1.5	W
Junction Temperature	T_J		150	$^\circ C$
Storage Temperature	T_{stg}		-55 to +150	$^\circ C$

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

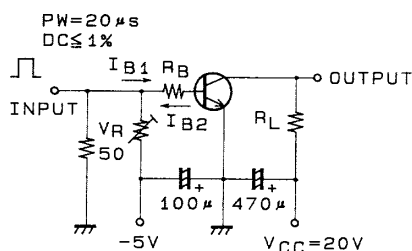
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CB0}	$V_{CB}=50V, I_E=0$			1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=10V, I_C=0$			1	μA
DC Current Gain	h_{FE1}	$V_{CE}=5V, I_C=500mA$	800	1500	3200	
	h_{FE2}	$V_{CE}=5V, I_C=1A$	600			
Gain-Bandwidth Product	f_T	$V_{CE}=10V, I_C=50mA$		170		MHz
Output Capacitance	C_{ob}	$V_{CB}=10V, f=1MHz$		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

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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	80			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	60			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_C=10\mu A, I_C=0$	15			V
Turn-ON Time	t_{on}	See specified Test Circuit.		0.23		μs
Storage Time	t_{stg}	See specified Test Circuit.		2.7		μs
Fall Time	t_f	See specified Test Circuit.		0.75		μs

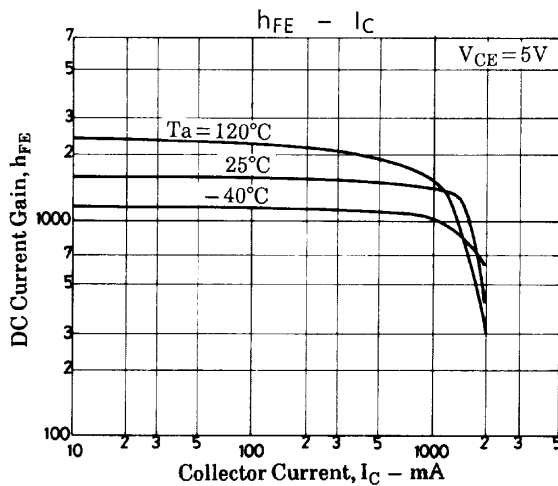
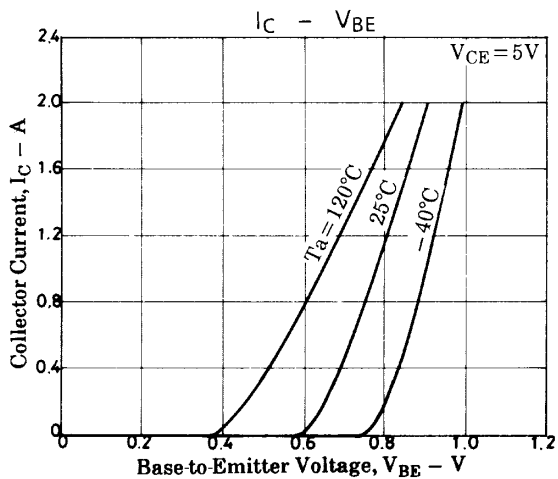
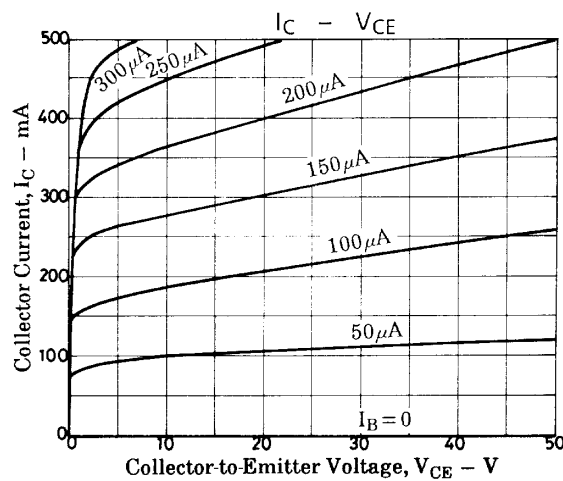
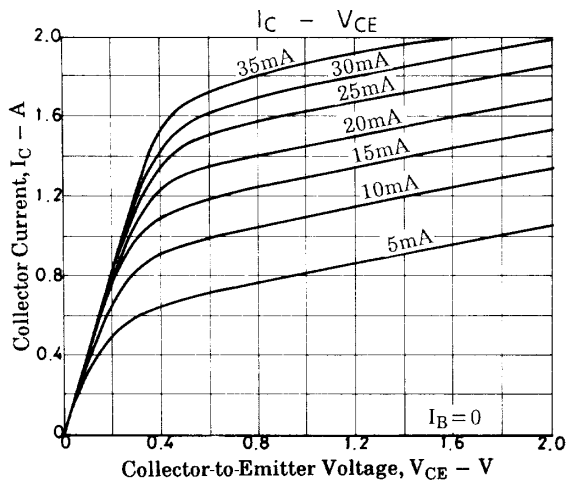
Switching Time Test Circuit



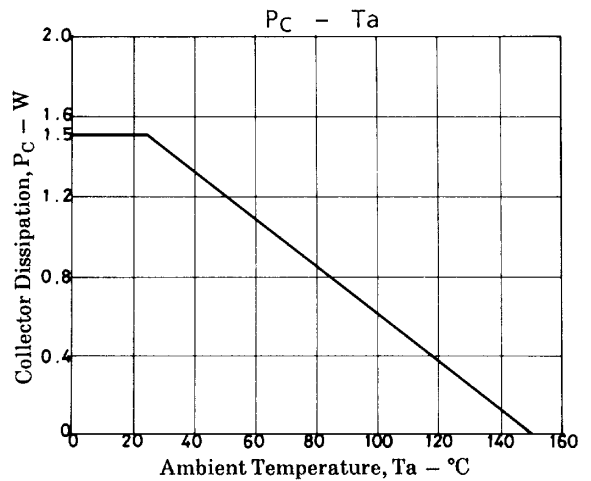
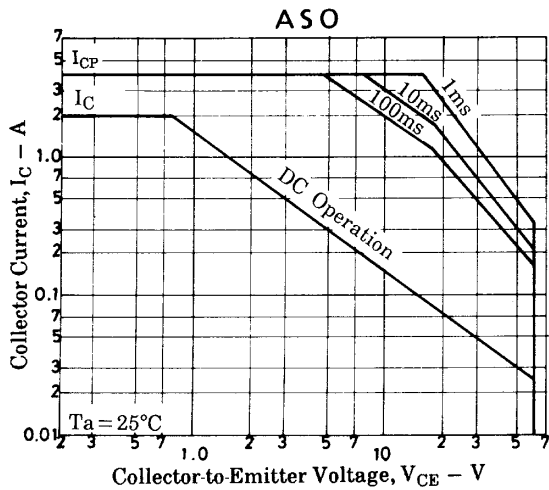
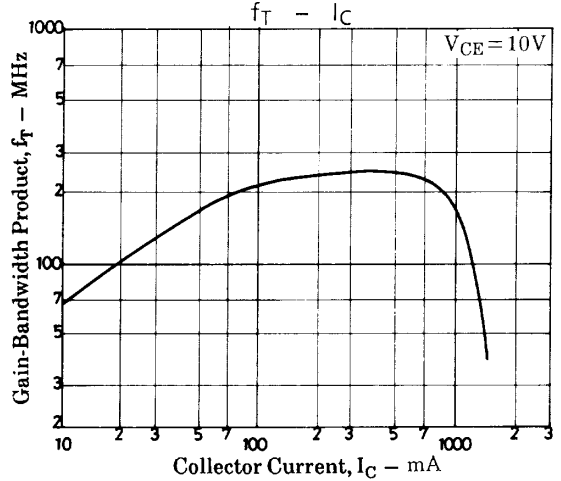
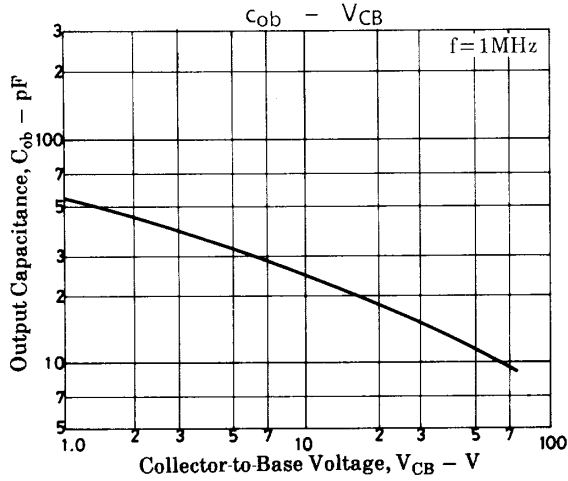
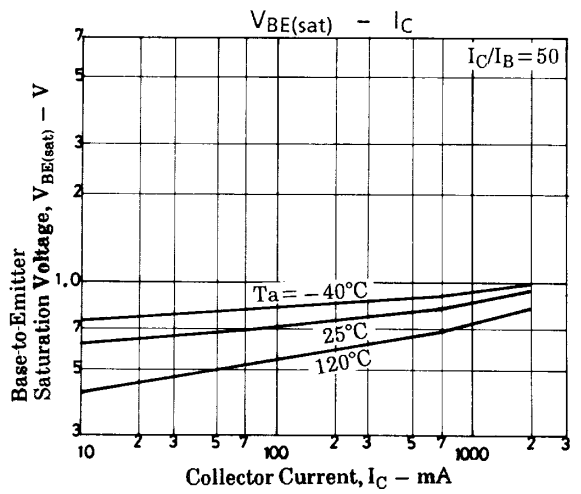
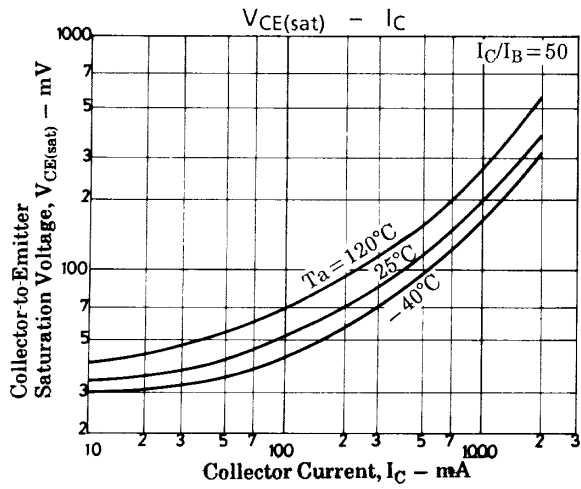
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$$100I_{B1} = -100I_{B2} = I_C = 700mA$$

Unit (resistance: Ω , capacitance: F)



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