



SANYO Semiconductors

## DATA SHEET

# 2SC4736

NPN Epitaxial Planar Silicon Transistor

## High hFE, 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.

### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CBO}$		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	$^\circ C$

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**SANYO Semiconductor Co., Ltd.**

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

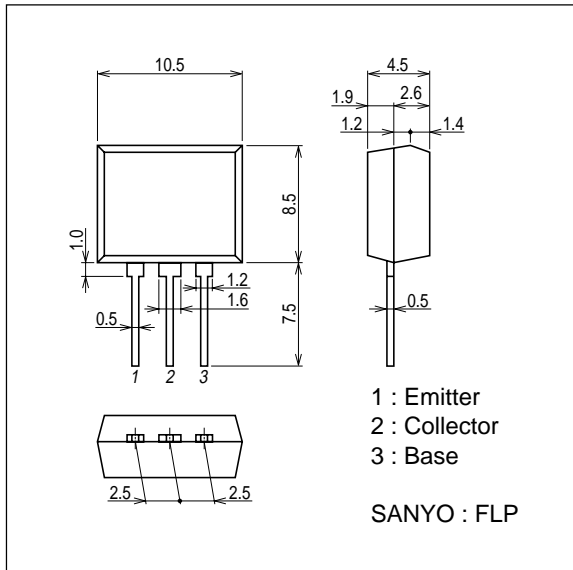
# 2SC4736

## Electrical Characteristics at Ta=25°C

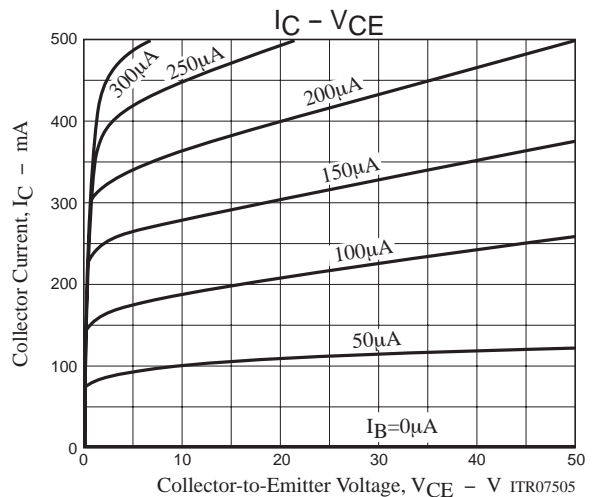
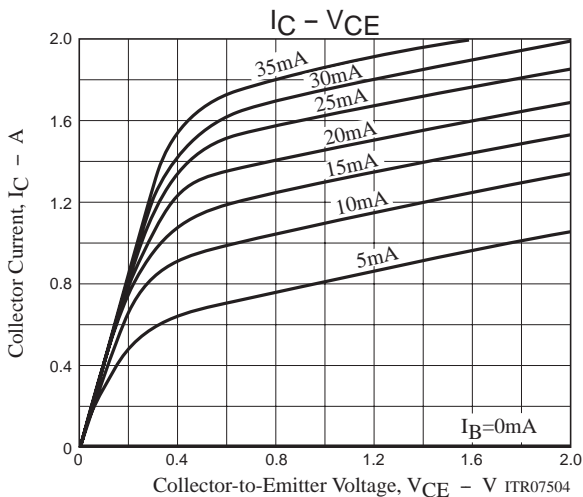
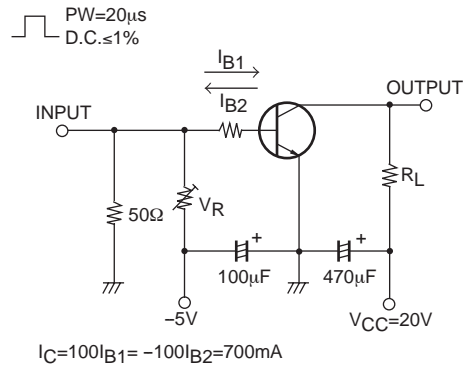
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V <sub>CB</sub> =50V, I <sub>E</sub> =0A			1	μA
Emitter Cutoff Current	IEBO	V <sub>EB</sub> =10V, I <sub>C</sub> =0A			1	μA
DC Current Gain	hFE1	V <sub>CE</sub> =5V, I <sub>C</sub> =500mA	800	1500	3200	
	hFE2	V <sub>CE</sub> =5V, I <sub>C</sub> =1A	600			
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =50mA		170		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V, f=1MHz		24		pF
Collector-to-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =1A, I <sub>B</sub> =20mA		0.2	0.5	V
Base-to-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =1A, I <sub>B</sub> =20mA		0.87	1.2	V
Collector-to-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =10μA, I <sub>E</sub> =0A	80			V
Collector-to-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =1mA, R <sub>BE</sub> =∞	60			V
Emitter-to-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =10μA, I <sub>C</sub> =0A	15			V
Turn-ON Time	t <sub>on</sub>	See specified Test Circuit.		0.23		μs
Storage Time	t <sub>stg</sub>	See specified Test Circuit.		2.7		μs
Fall Time	t <sub>f</sub>	See specified Test Circuit.		0.75		μs

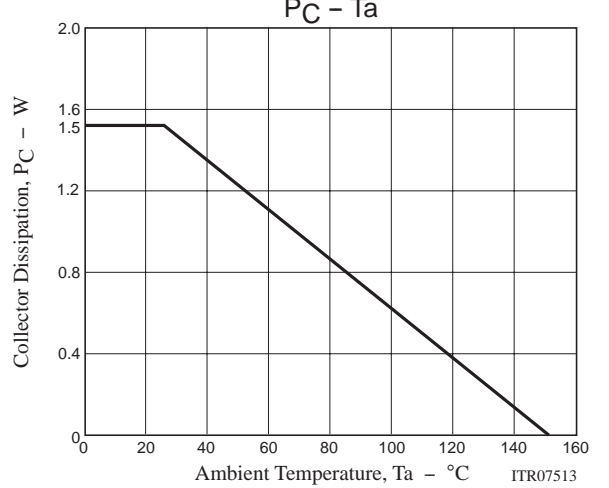
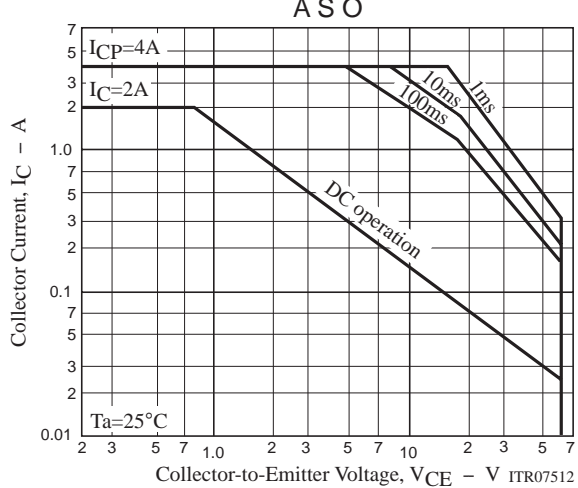
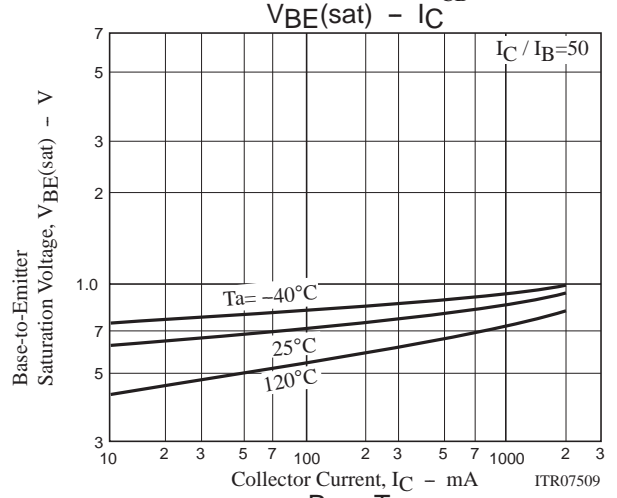
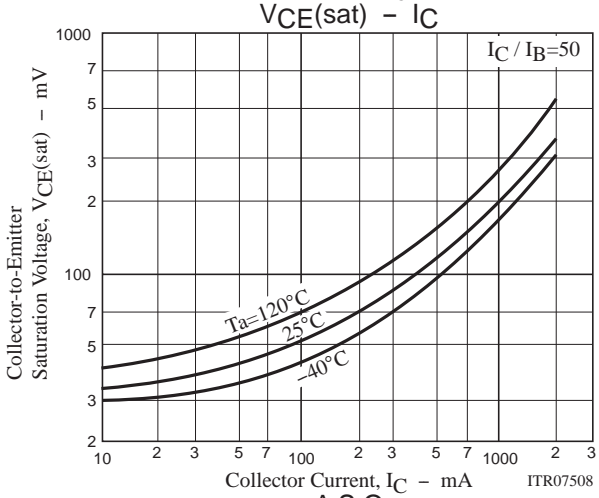
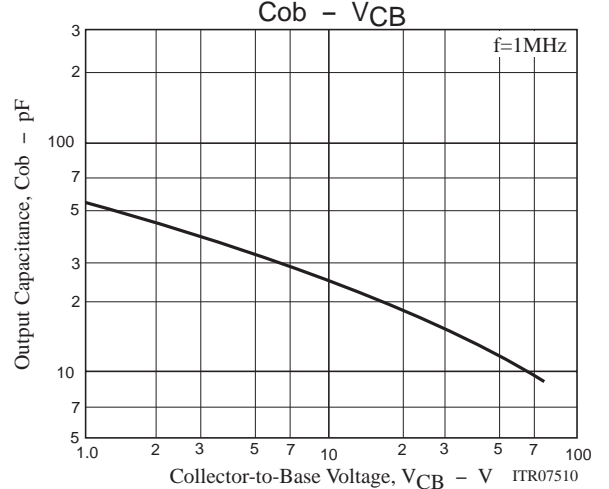
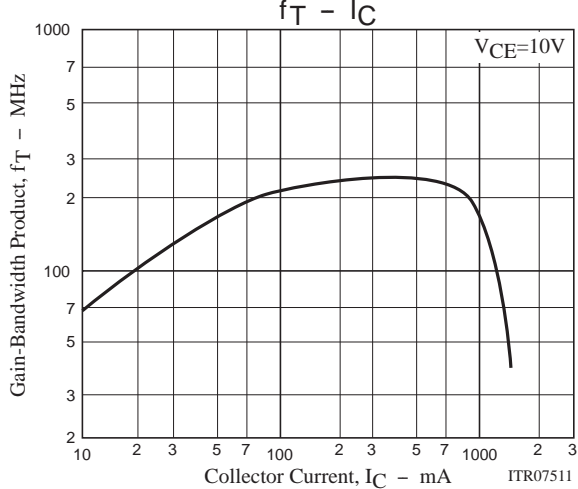
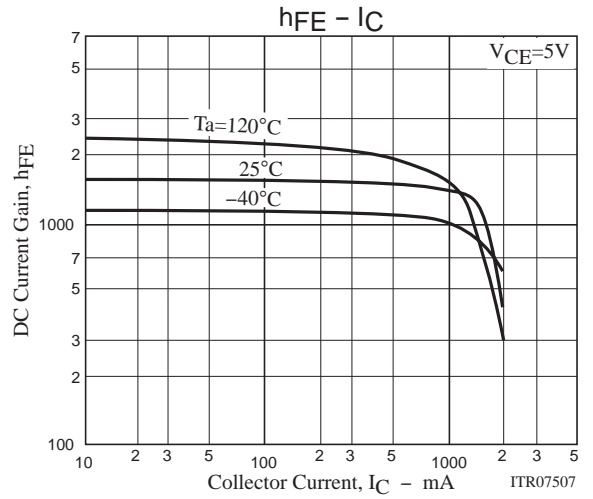
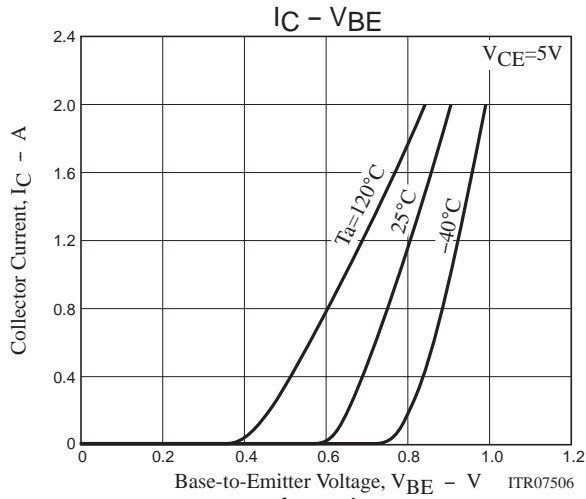
## Package Dimensions

unit : mm (typ)  
7514-003



## Switching Time Test Circuit





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