Ordering number: EN1973A

SANYO

No.1973A

2SA1469/2SC3746

PNP/NPN Epitaxial Planar Silicon Transistors

60V/5A High-Speed Switching Applications

Applications

- Various inductance lamp drivers for electrical equipment.
- Inverters, converters (strobo, flash, fluorescent lamp lighting circuit).
- Power amp (high power car stereo, motor controller).
- High-speed switching (switching regulator, driver).

Features

- Low saturation voltage.
- Excellent current dependence of h_{FE}.
- Short switching time.
- Micaless package facilitating mounting.

( ) : 2SA1469

Absolute Maximum Ratings at Ta = 25°C

				unit
Collector-to-Base Voltage	V_{CBO}		(−)80	V
Collector-to-Emitter Voltage	V_{CEO}		(−)60	V
Emitter-to-Base Voltage	V_{EBO}		(−)5	V
Collector Current	I_C		(−)5	A
Collector Current (Pulse)	I_{CP}		(−)7	A
Collector Dissipation	P_C		2	W
		Tc = 25°C	20	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		−55 to +150	°C

Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB} = (−)40V, I_E = 0			(−)0.1	mA
Emitter Cutoff Current	I_{EBO}	V_{EB} = (−)4V, I_C = 0			(−)0.1	mA
DC Current Gain	h_{FE}	V_{CE} = (−)2V, I_C = (−)1A	70※		280※	
Gain-Bandwidth Product	f_T	V_{CE} = (−)5V, I_C = (−)1A		100		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	I_C = (−)2.5A, I_B = (−)0.125A			(−)0.4	V

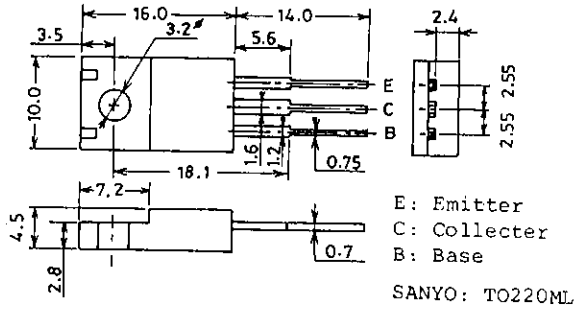
Continued on next page.

※ : The 2SA1469/2SC3746 are classified by 1A h_{FE} as follows

70 Q 140	100 R 200	140 S 280

Package Dimensions 2041

(unit : mm)



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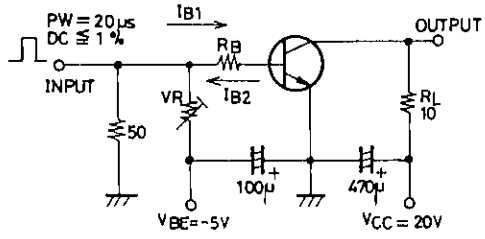
Continued from preceding page.

			min	typ	max	unit
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)1mA, I_E=0$	(−)80			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(−)60			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)1mA, I_C=0$	(−)5			V
Turn-on Time	t_{on}	See specified Test Circuit.		0.1		μs
Storage Time	t_{stg}	〃		0.5		μs
Fall Time	t_f	〃		0.1		μs

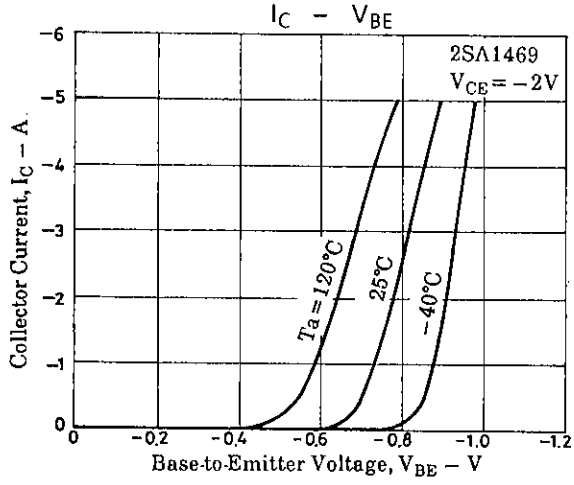
Switching Time Test Circuit

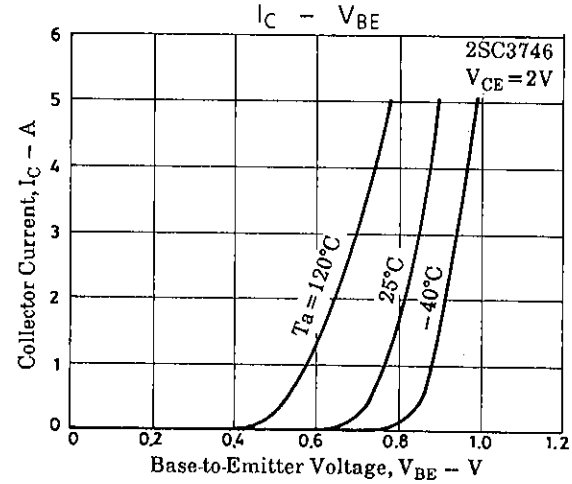


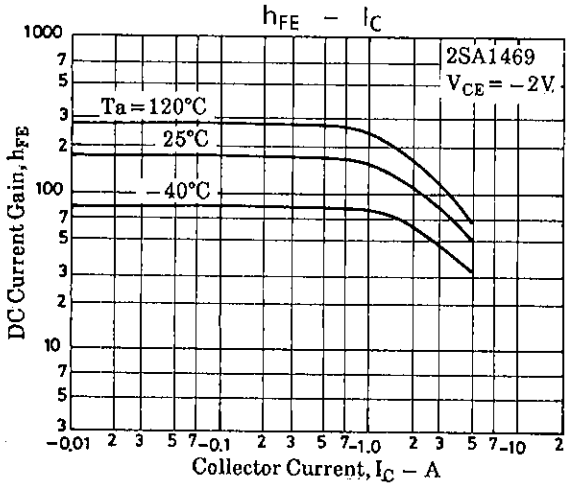
$20I_B1=-20I_B2=I_C=2A$

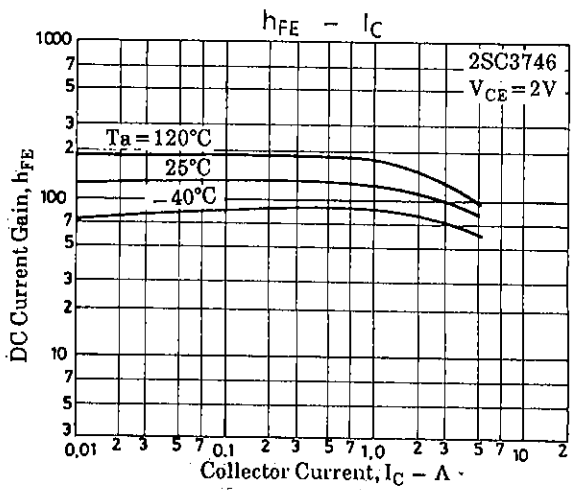
(For PNP, the polarity is reversed).

Unit (Resistance : Ω, Capacitance : F)

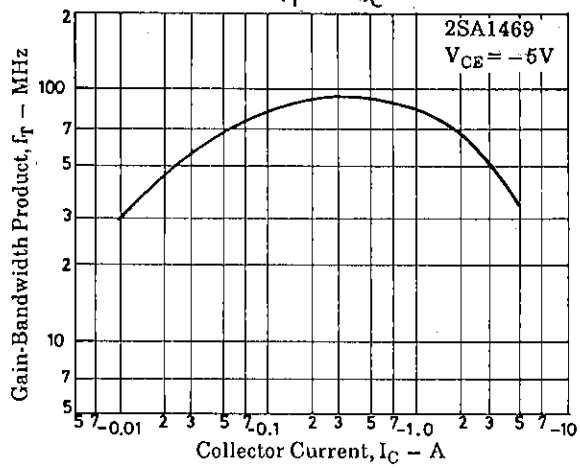




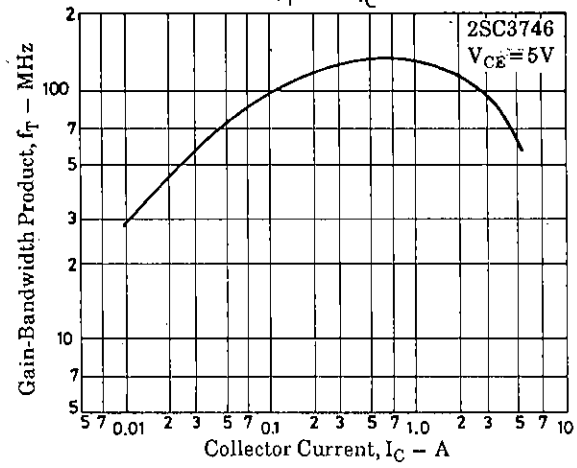




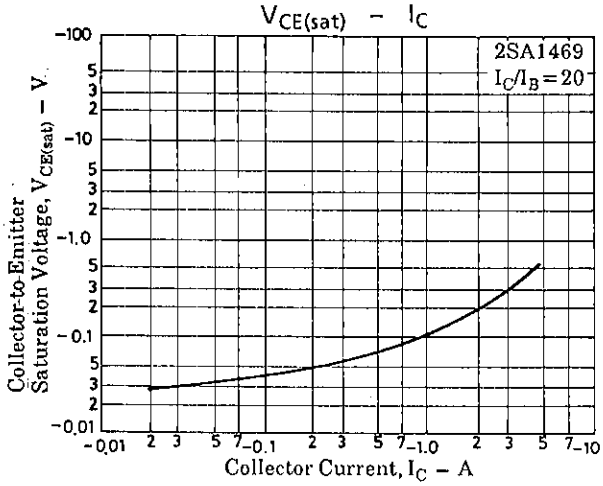
f_T – I_C



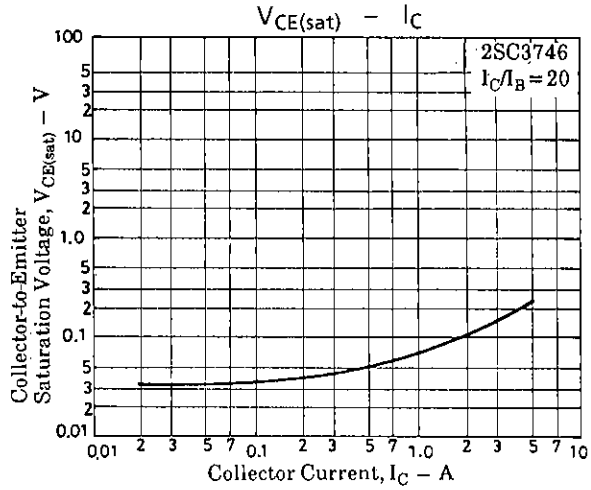
f_T – I_C



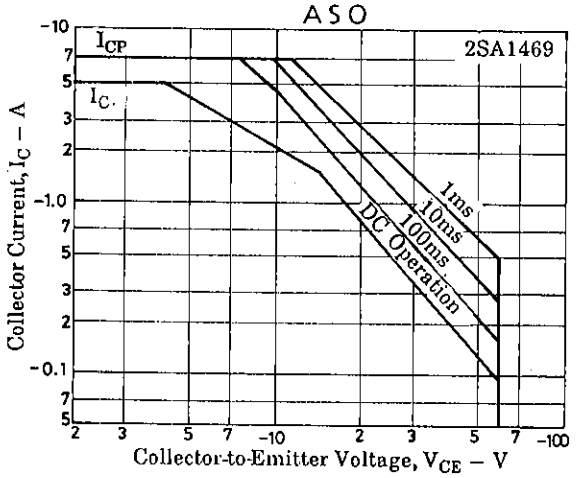
$V_{CE(sat)}$ – I_C



$V_{CE(sat)}$ – I_C



ASO



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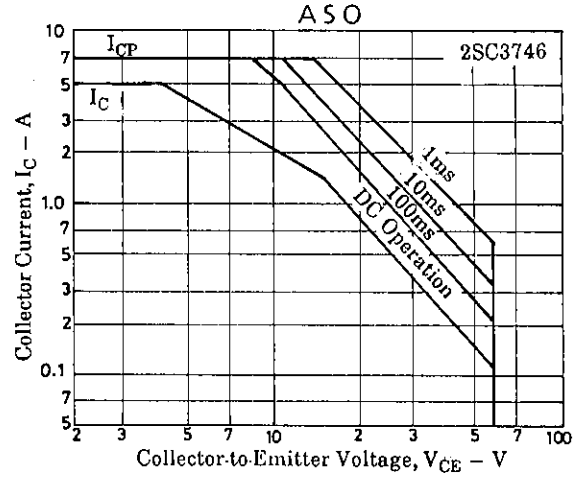

P_C – Ta