

2SA1469 / 2SC3746 — PNP / NPN Epitaxial Planar Silicon Transistors

60V / 5A High-Speed Switching Applications

Applications

- Various inductance lamp drivers for electrical equipment.
- Inverters, converters (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 hFE .
- Short switching time.
- Micaless package facilitating mounting.

Specifications () : 2SA1469

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}		(-)5	V
Collector Current	I_C		(-)5	A
Collector Current (Pulse)	I_{CP}		(-)7	A
Collector Dissipation	P_C		2	W
		$T_c=25^\circ C$	20	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_{CBO}	$V_{CB}=(-)40V, I_E=0A$			(-)0.1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)4V, I_C=0A$			(-)0.1	mA
DC Current Gain	hFE	$V_{CE}=(-)2V, I_C=(-)1A$	70*		280*	

* : The 2SA1469/2SC3746 are classified by 1A hFE as follows :

Continued on next page.

Rank	Q	R	S
hFE	70 to 140	100 to 200	140 to 280

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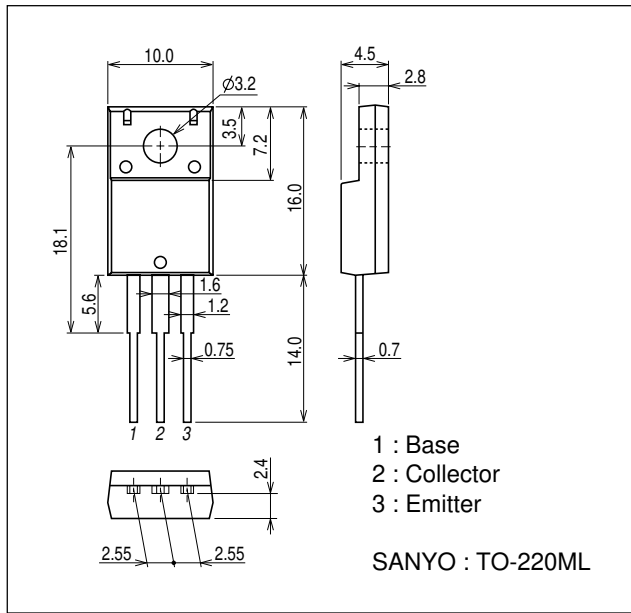
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gain-Bandwidth Product	f_T	$V_{CE}=(-)5V, I_C=(-)1A$		100		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)2.5A, I_B=(-)0.125A$			(-)0.4	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)1mA, I_E=0A$	(-)80			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(-)60			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)1mA, I_C=0A$	(-)5			V
Turn-On Time	t_{on}	See specified Test Circuit.		0.1		μs
Storage Time	t_{stg}	See specified Test Circuit.		0.5		μs
Fall Time	t_f	See specified Test Circuit.		0.1		μs

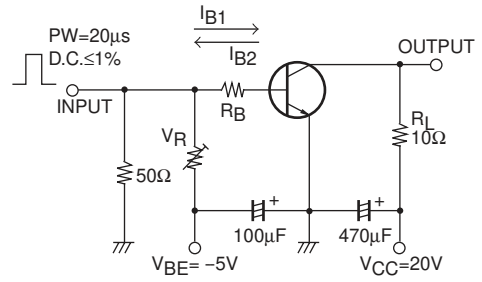
Package Dimensions

unit : mm (typ)

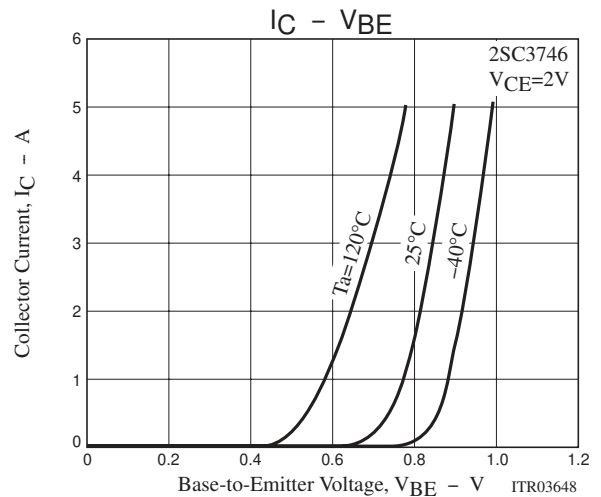
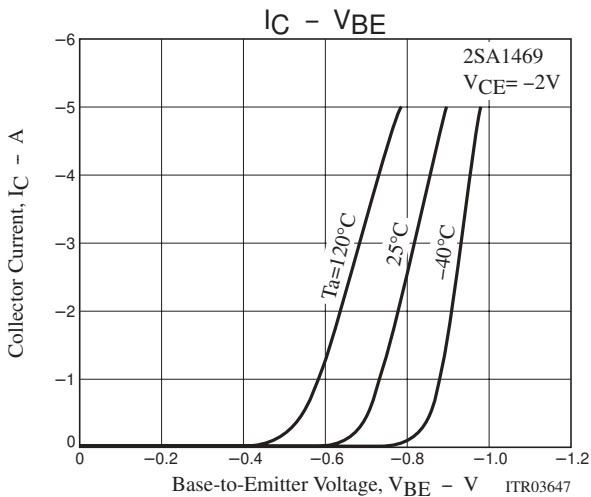
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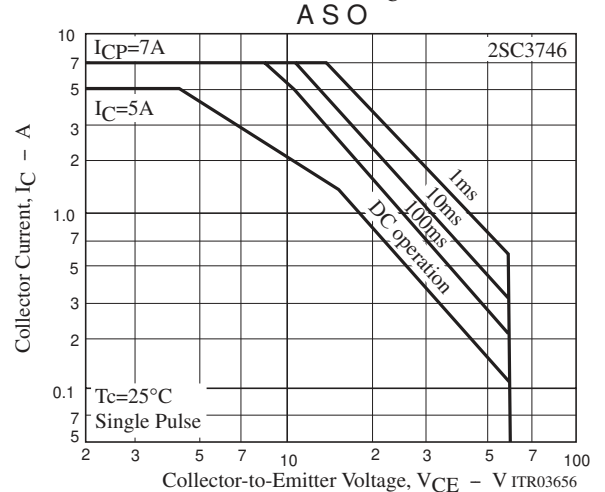
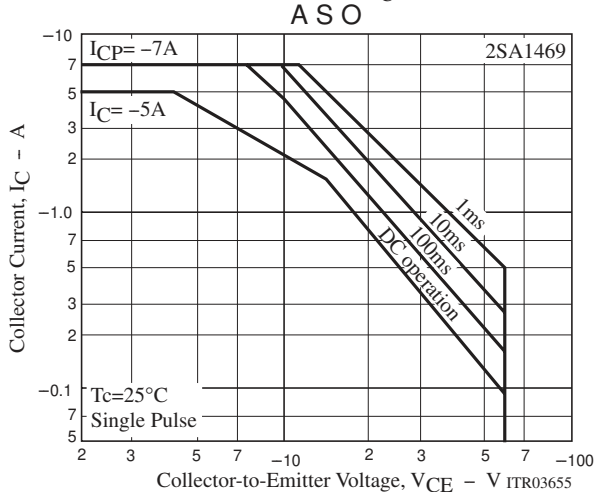
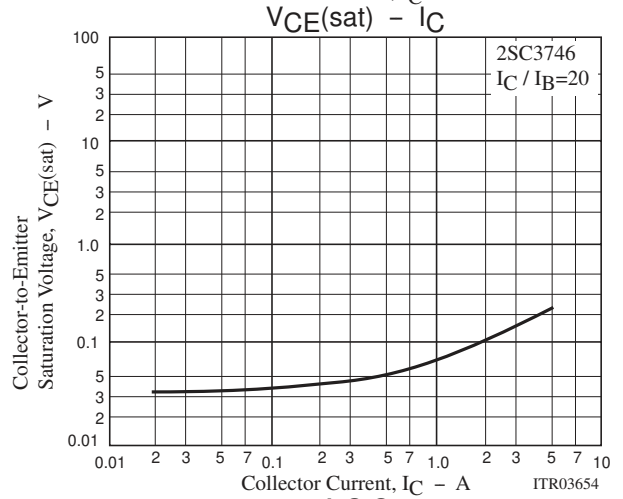
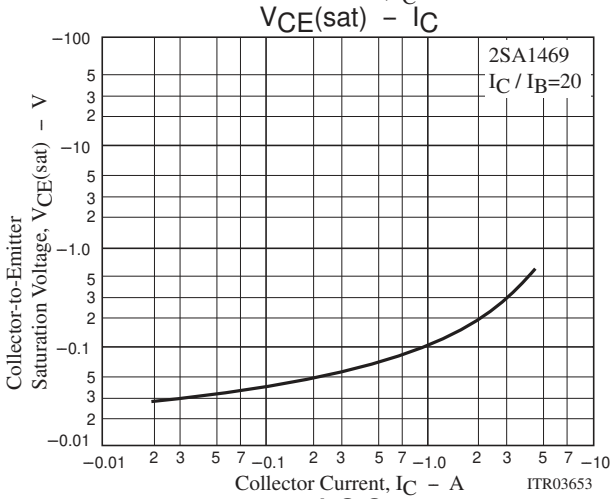
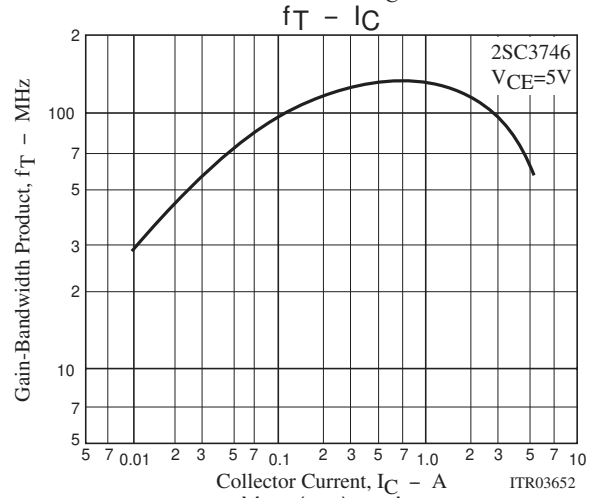
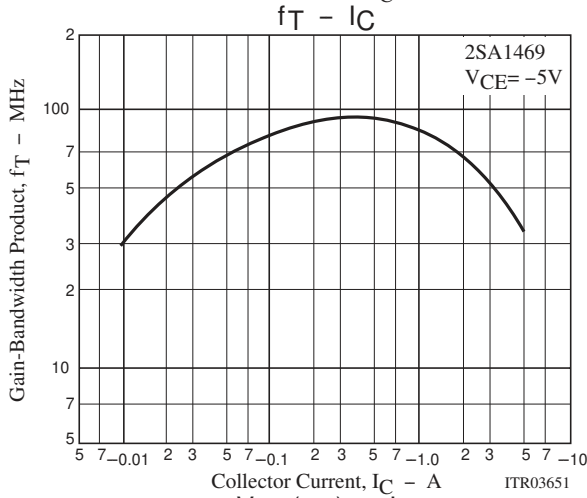
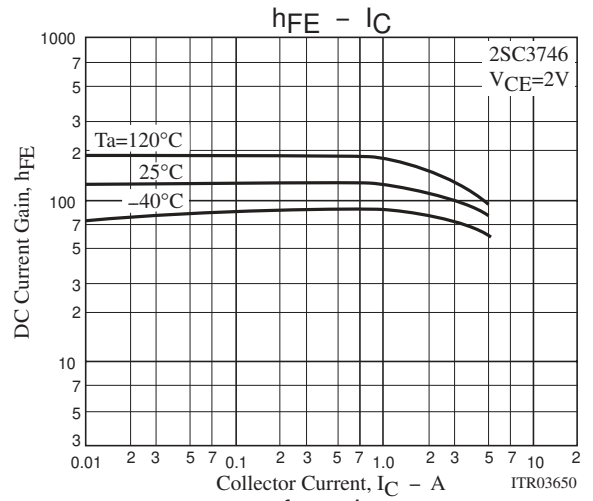
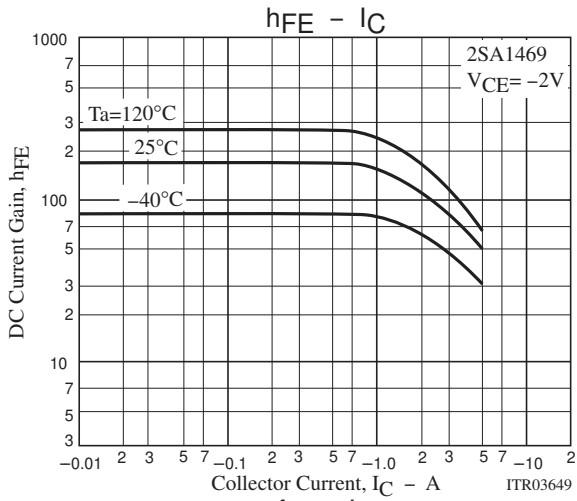
Switching Time Test Circuit



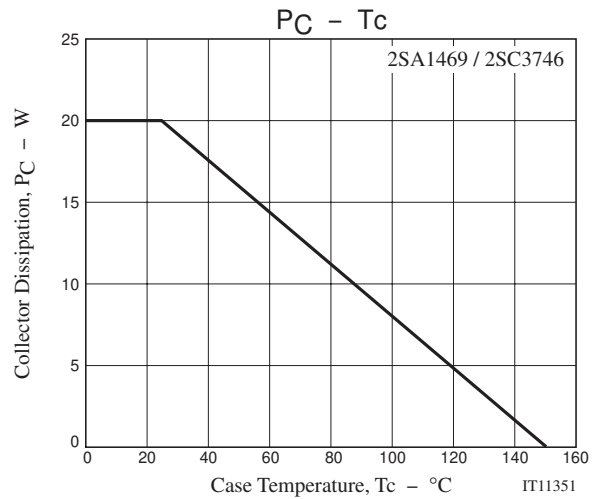
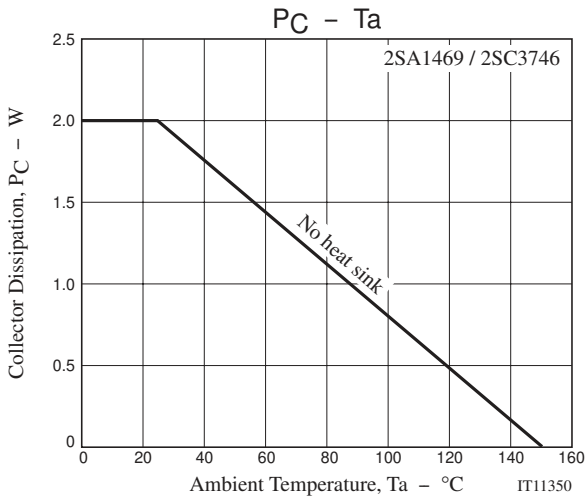
$20I_{B1} = -20I_{B2} = I_C = 2A$
 For PNP, the polarity is reversed.



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