



2SA1469/2SC3746

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

Specifications

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

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	$T_c = 25^\circ\text{C}$	2	W
Junction Temperature	T_j		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-)40\text{V}, I_E = 0$			(-)0.1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)4\text{V}, I_C = 0$			(-)0.1	mA
DC Current Gain	h_{FE}	$V_{CE} = (-)2\text{V}, I_C = (-)1\text{A}$	70*		280*	
Gain-Bandwidth Product	f_T	$V_{CE} = (-)5\text{V}, I_C = (-)1\text{A}$		100		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)2.5\text{A}, I_B = (-)0.125\text{A}$			(-)0.4	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\text{mA}, I_E = 0$	(-)80			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1\text{mA}, R_{BE} = \infty$	(-)60			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)10\text{mA}, I_C = 0$	(-)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

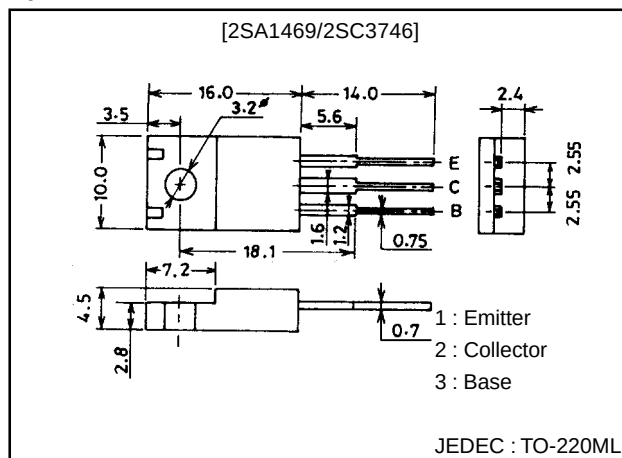
* : The 2SA1469/2SC3746 are classified by 1A h_{FE} as follows

70	Q	140	100	R	200	140	S	280
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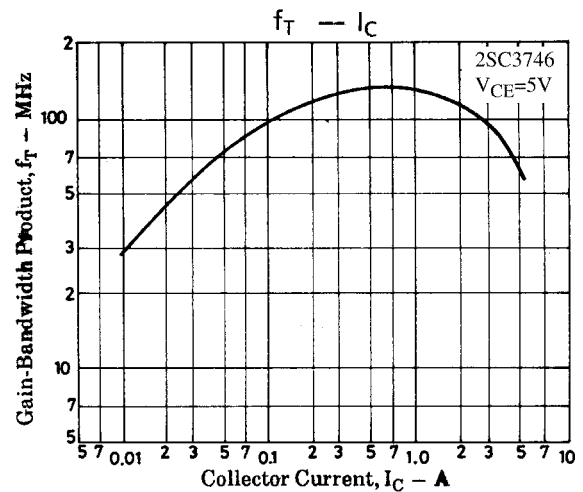
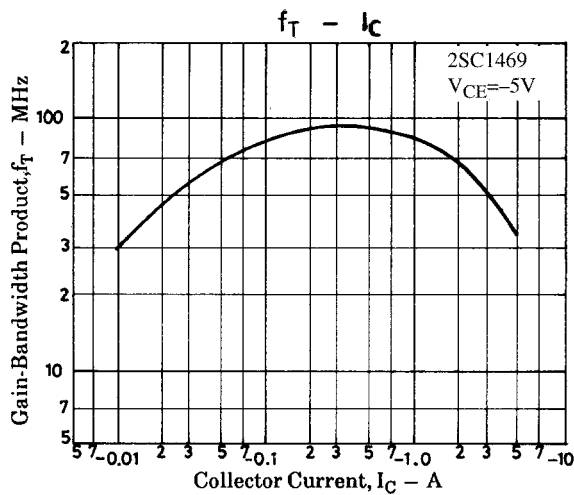
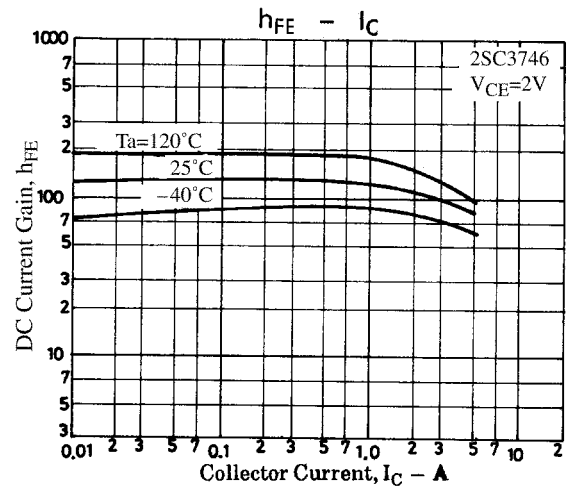
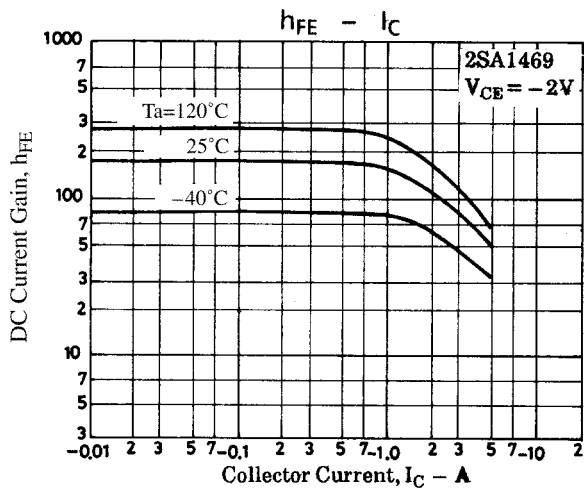
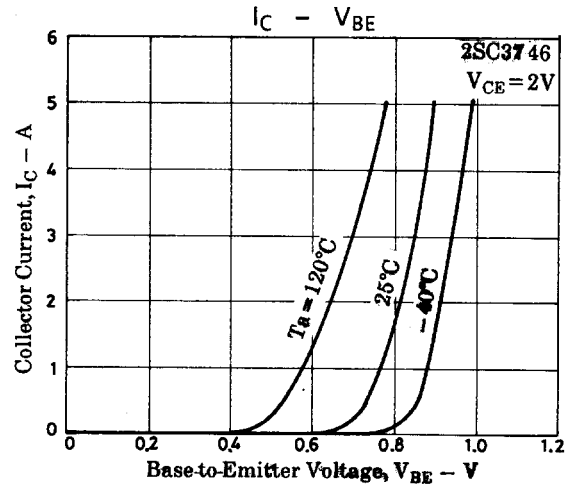
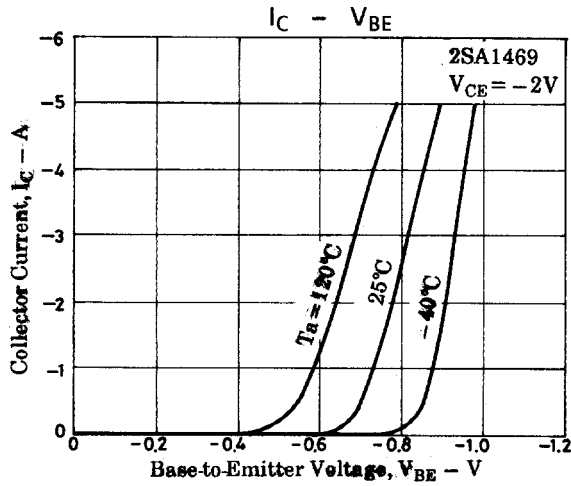
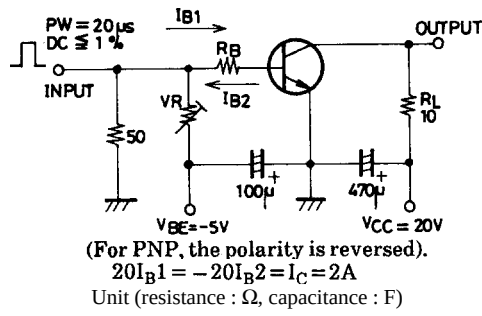
Package Dimensions

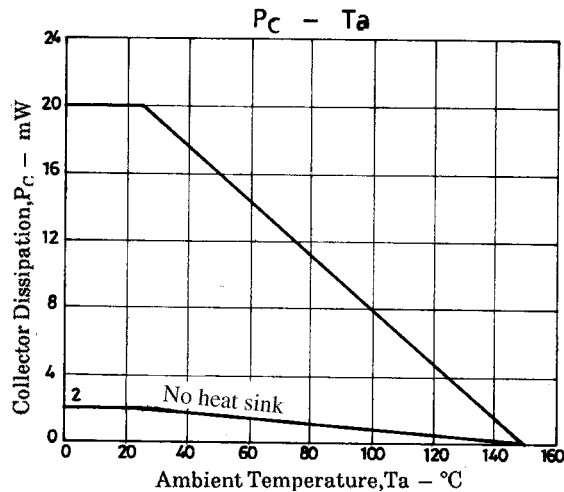
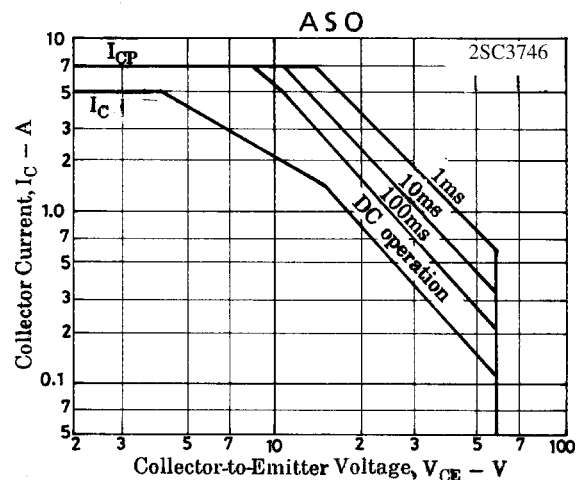
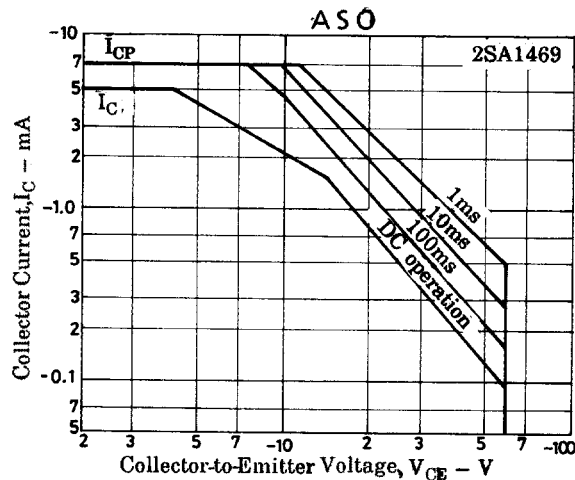
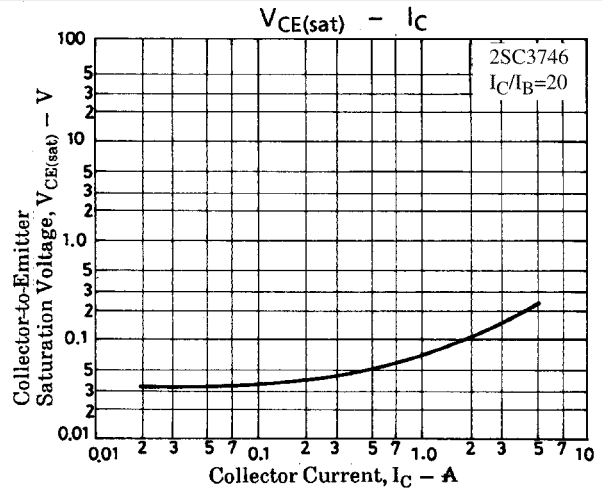
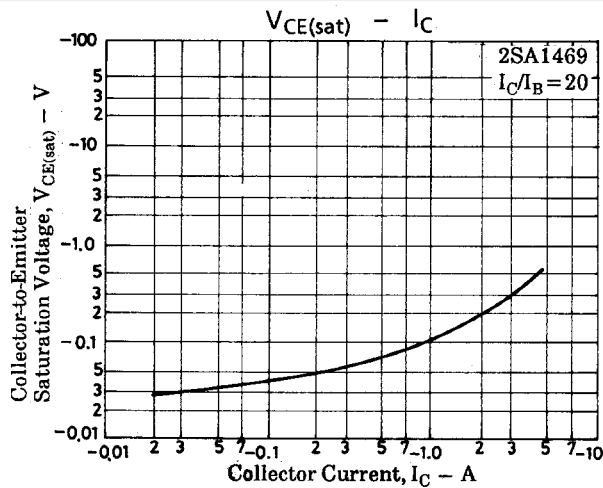
unit:mm

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Switching Time Test Circuit





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