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DATA SHEET

2SA1740 / 2SC4548

PNP Epitaxial Planar Silicon Transistor

NPN Triple Diffused Planar Silicon Transistor

High-Voltage Driver Applications

Features

- High breakdown voltage.
- Adoption of MBIT process.
- Excellent h_{FE} linearity.

Specifications () : 2SA1740

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(-)400	V
Collector-to-Emitter Voltage	V_{CEO}		(-)400	V
Emitter-to-Base Voltage	V_{EBO}		(-)5	V
Collector Current	I_C		(-)200	mA
Collector Current (Pulse)	I_{CP}		(-)400	mA
Collector Dissipation	P_C	Mounted on a ceramic board (250mm ² ×0.8mm)	1.3	W
Junction Temperature	T_j		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)300\text{V}$, $I_E=0\text{A}$			(-)0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)4\text{V}$, $I_C=0\text{A}$			(-)0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=(-)10\text{V}$, $I_C=(-)50\text{mA}$	60*		200*	

Marking 2SA1740 : AK

2SC4548 : CN

Continued on next page.

*: The 2SA1740 / 2SC4548 are classified by 50mA h_{FE} as follows:

Rank	D	E
h_{FE}	60 to 120	100 to 200

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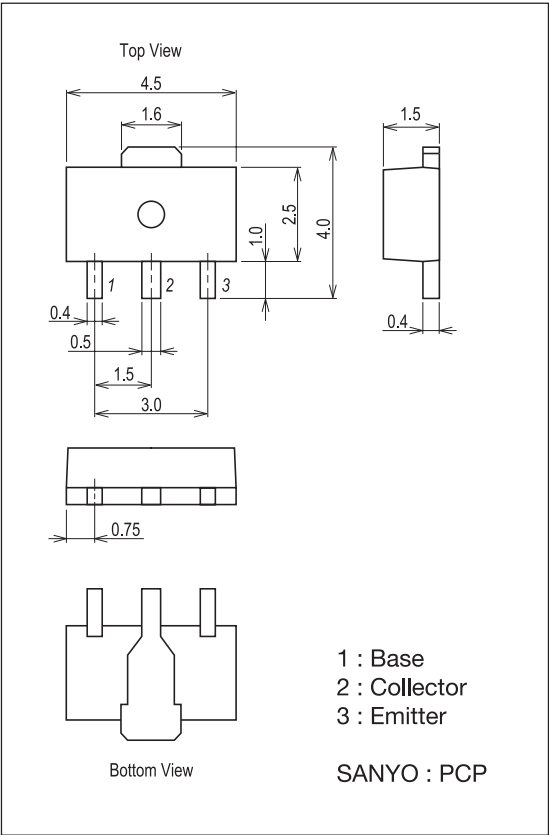
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gain-Bandwidth Product	f_T	$V_{CE}=(-)30V, I_C=(-)10mA$		70		MHz
Output Capacitance	C_{ob}	$V_{CB}=(-)30V, f=1MHz$		(5)4		pF
Reverse Transfer Capacitance	C_{re}	$V_{CB}=(-)30V, f=1MHz$		(4)3		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)50mA, I_B=(-)5mA$			$(-0.8)0.6$	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)50mA, I_B=(-)5mA$			$(-)1.0$	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0A$	$(-)400$			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	$(-)400$			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu A, I_C=0A$	$(-)5$			V
Turn-ON Time	t_{on}	See specified Test Circuit.		0.25		μs
Turn-DFF Time	t_{off}	See specified Test Circuit.		5.0		μs

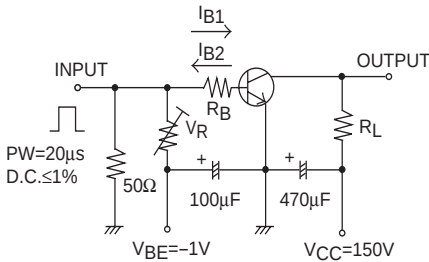
Package Dimensions

unit : mm (typ)

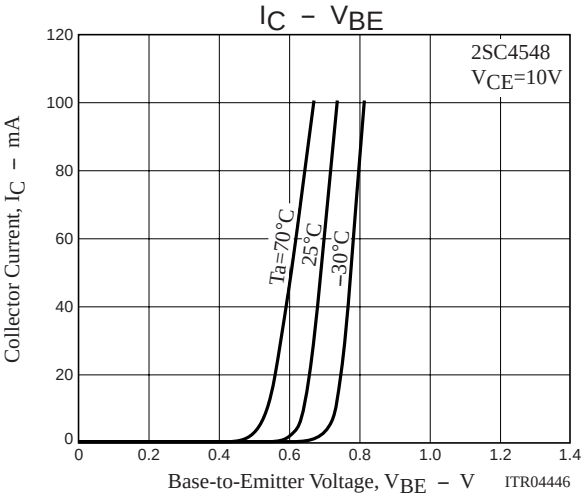
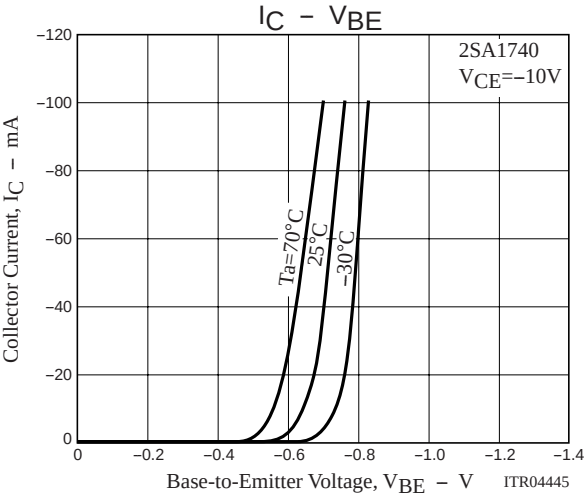
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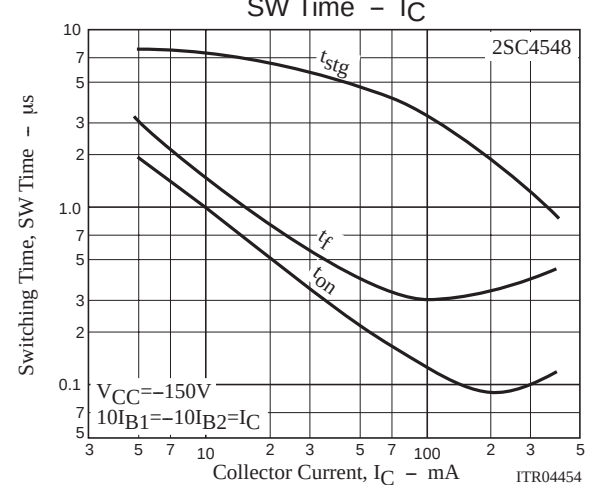
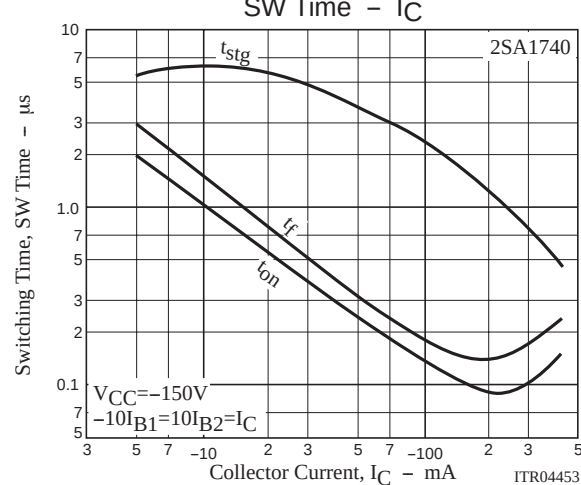
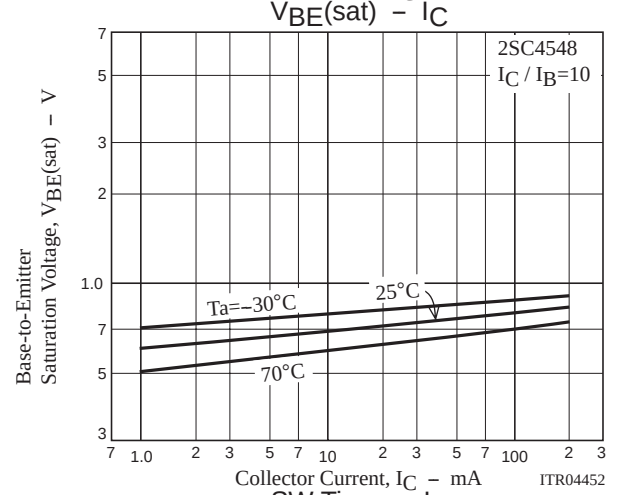
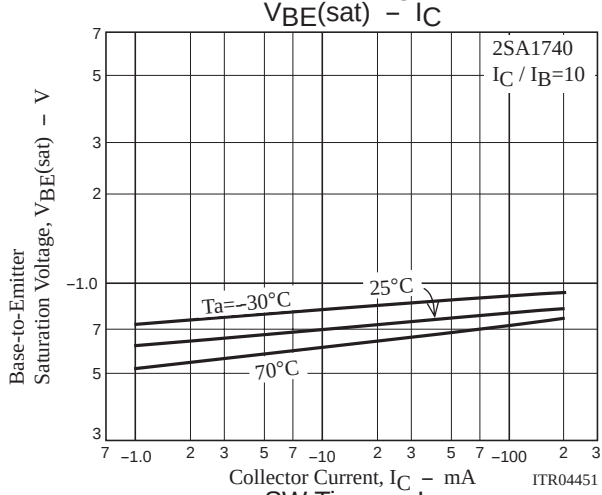
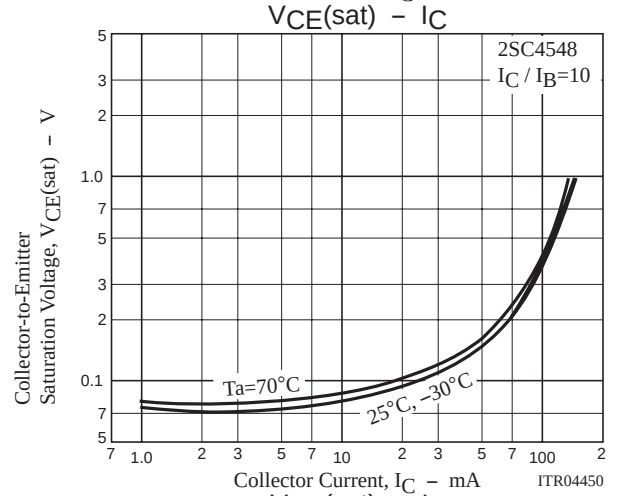
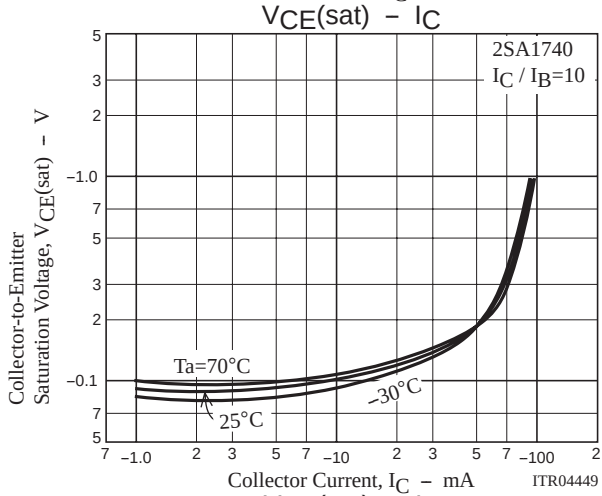
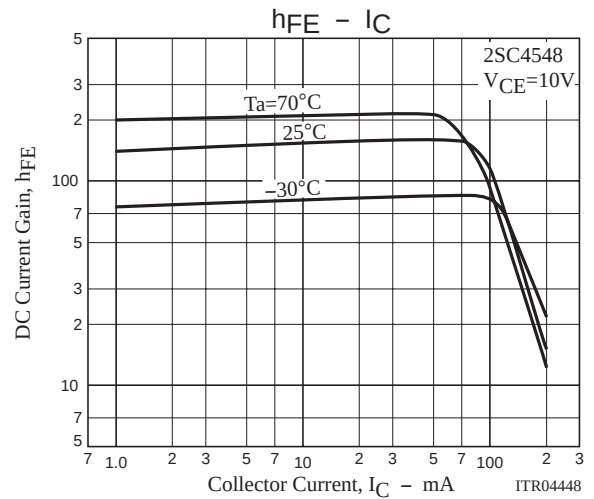
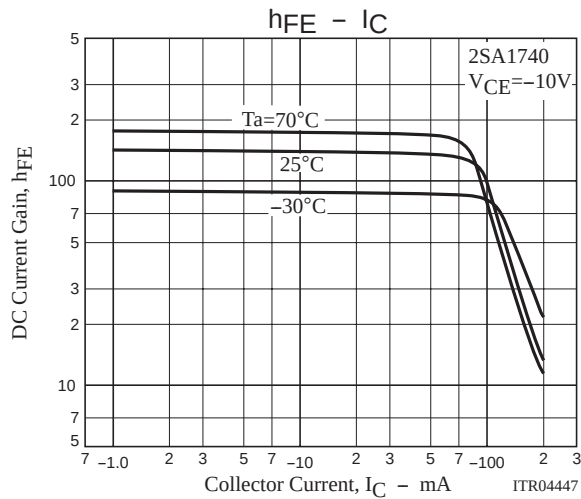


Switching Time Test Circuit

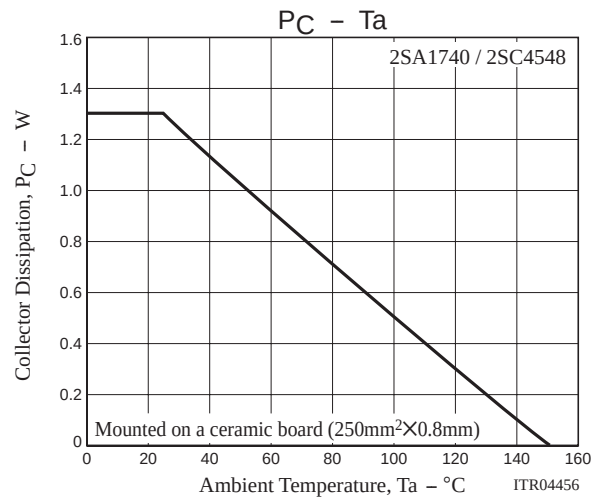
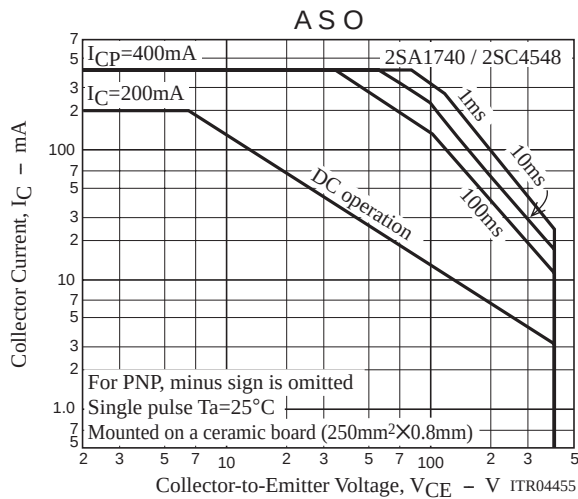


$I_C=10I_{B1}= -10I_{B2}=50mA$
 $R_L=3k\Omega, R_B=200\Omega$ at $I_C=50mA$
For PNP, the polarity is reversed





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