



2SA1740/2SC4548

High-Voltage Driver Applications

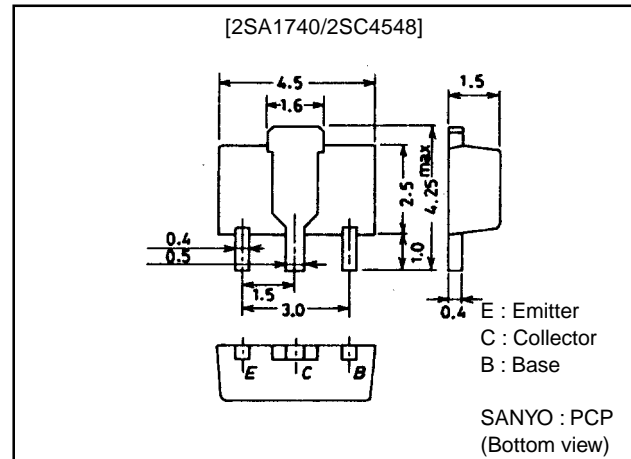
Features

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

Package Dimensions

unit:mm

2038



() : 2SA1740

Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		(-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 ceramic board (250mm ² ×0.8mm)	1.3	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}	$V_{CB} = (-)300\text{V}, I_E = 0$			(-0.1)	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)4\text{V}, I_C = 0$			(-0.1)	μA
DC Current Gain	h_{FE}	$V_{CE} = (-)10\text{V}, I_C = (-)50\text{mA}$	60*		200*	
Gain-Bandwidth Product	f_T	$V_{CE} = (-)30\text{V}, I_C = (-)10\text{mA}$		70		MHz
Output Capacitance	C_{ob}	$V_{CB} = (-)30\text{V}, f = 1\text{MHz}$		(5)4		pF
Reverse Transfer Capacitance	C_{re}	$V_{CB} = (-)30\text{V}, f = 1\text{MHz}$		(4)3		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)50\text{mA}, I_B = (-)5\text{mA}$			(-0.8)	V
					0.6	V

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2SA1740/2SC4548

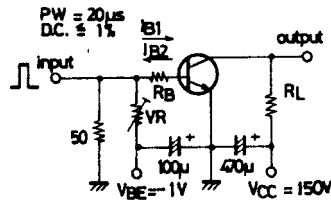
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)50mA, I_B=(-)5mA$			(-) 1.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	(-) 400			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(-) 400			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu A, I_C=0$	(-) 5			V
Turn-ON Time	t_{on}	See specified Test Circuit		0.25		μs
Turn-OFF Time	t_{off}	See specified Test Circuit		5.0		μs

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

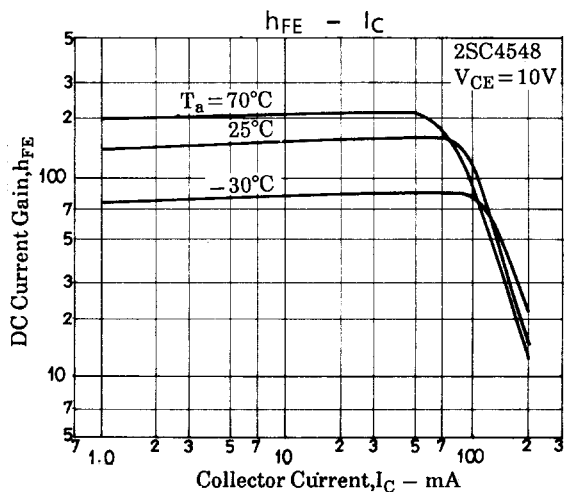
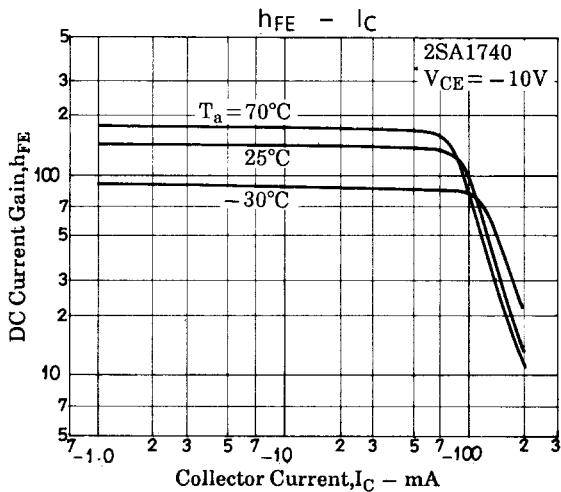
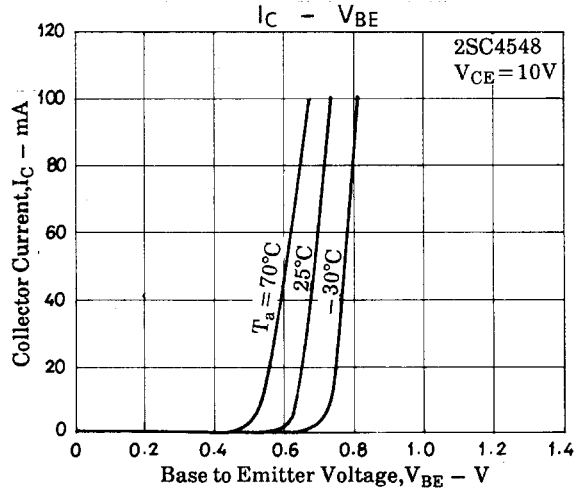
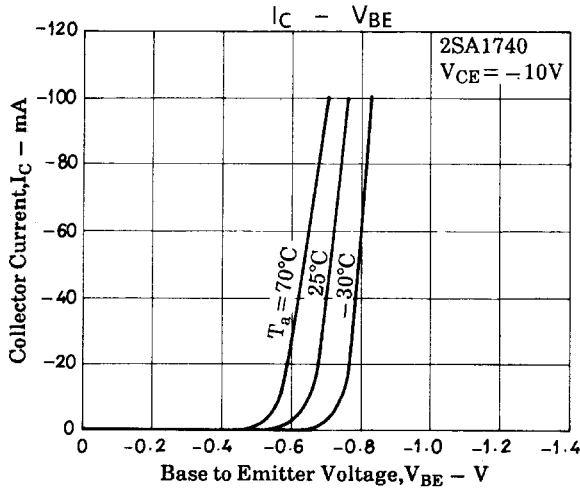
60	D	120	100	E	200
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Marking 2SA1740 : AK
 2SC4548 : CN
 h_{FE} rank : D, E

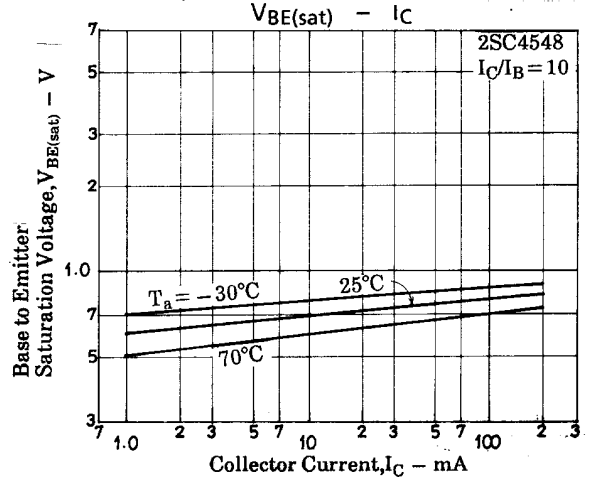
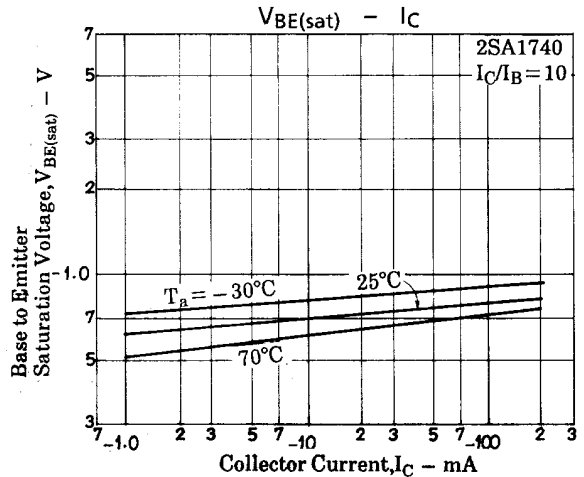
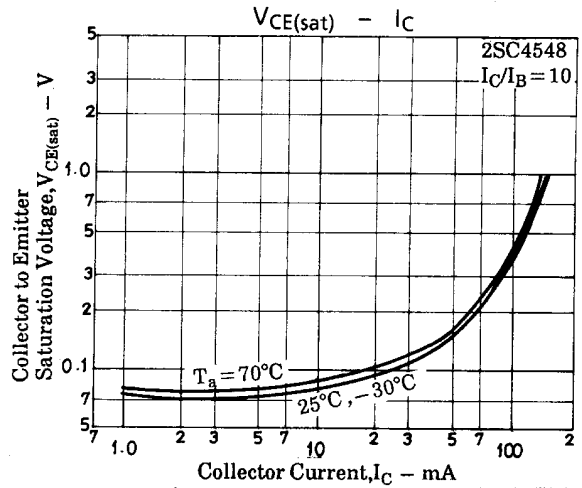
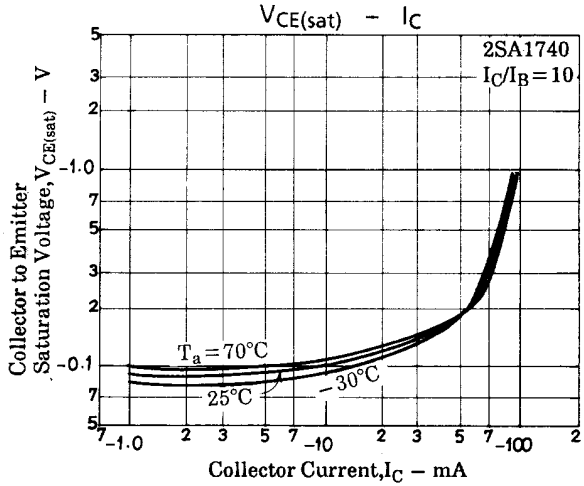
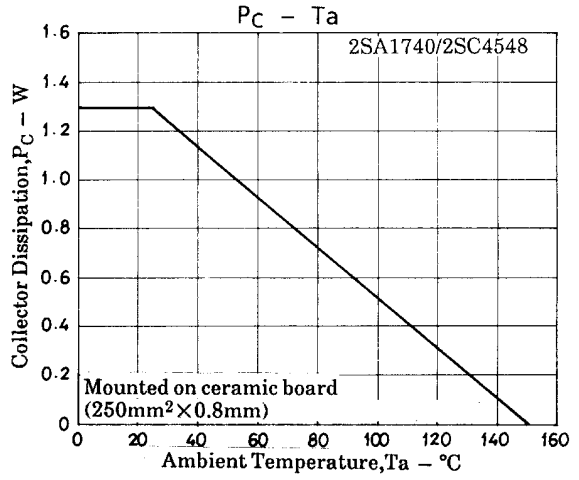
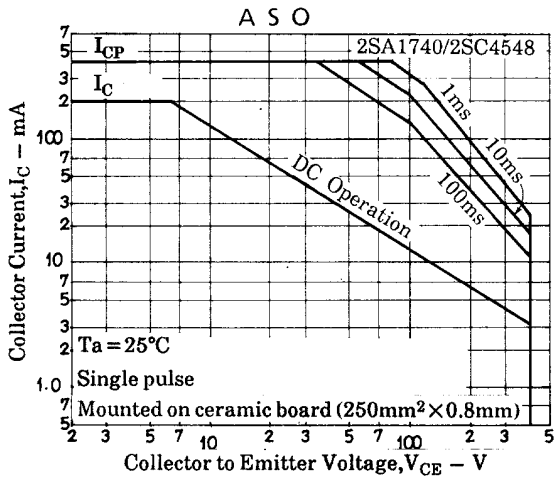
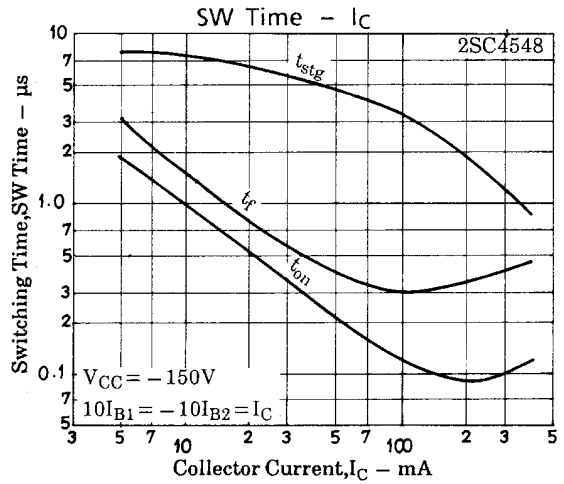
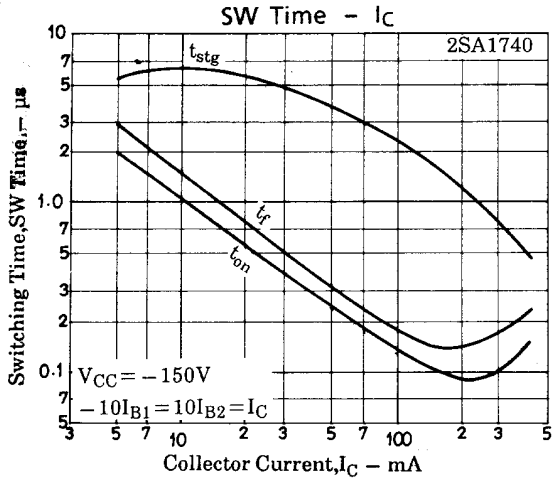
Switching Time Test Circuit



$10I_{B1} = -10I_{B2} = I_C = 50mA$
 $R_L = 3k\Omega, R_B = 200\Omega$ at $I_C = 50mA$
 For PNP, the polarity is reversed.
 Unit (resistance : Ω , capacitance : F)



2SA1740/2SC4548



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