



2SA1740/2SC4548

High-Voltage Driver Applications

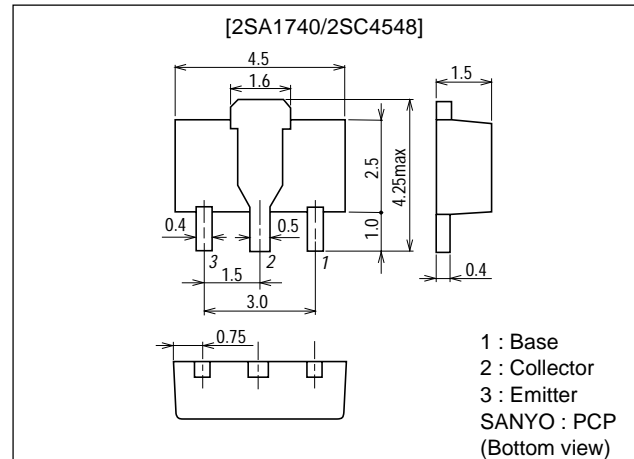
Features

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

Package Dimensions

unit:mm

2038A



() : 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*	

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

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

Marking 2SA1740 : AK

2SC4548 : CN

 h_{FE} rank : D, E

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TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

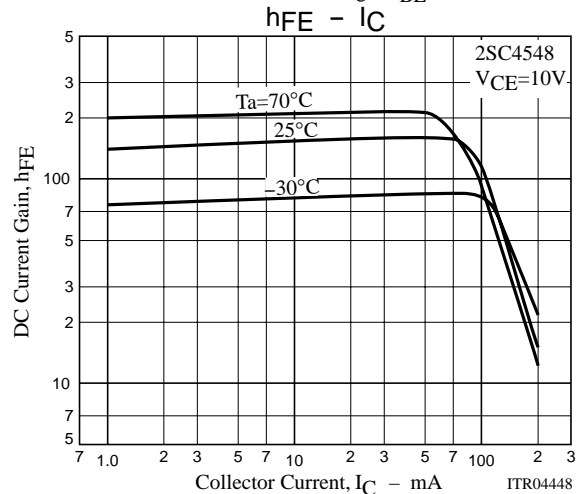
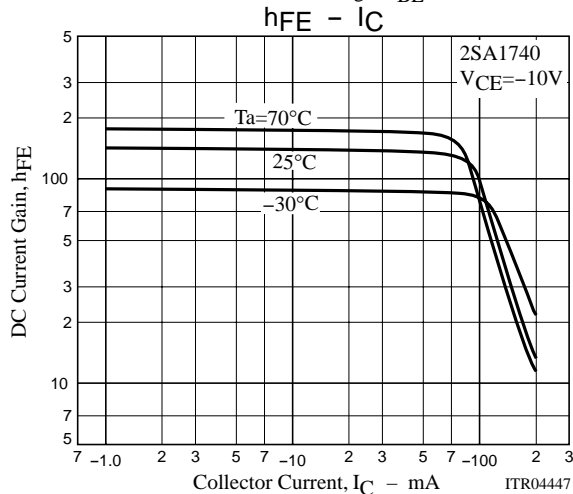
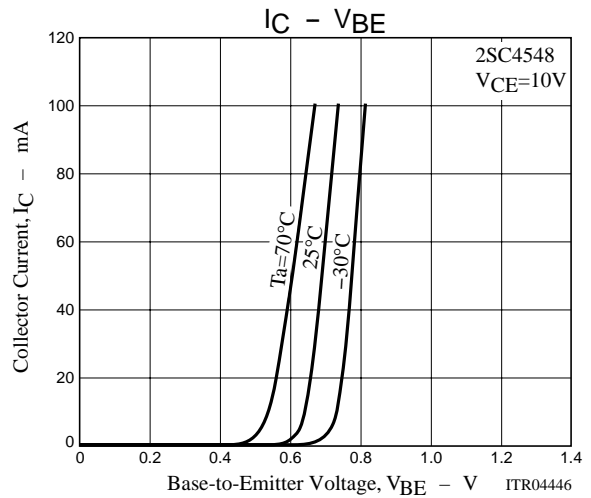
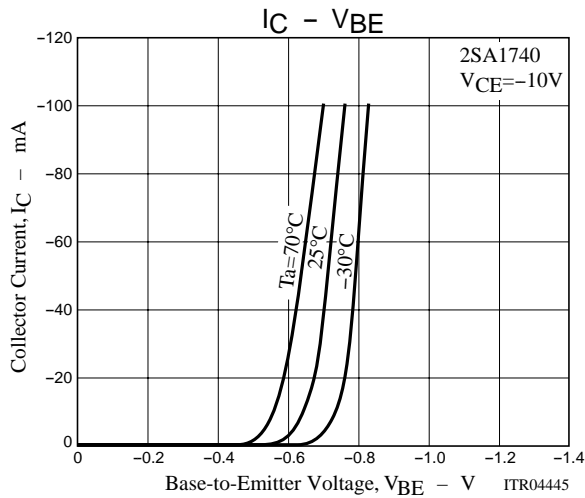
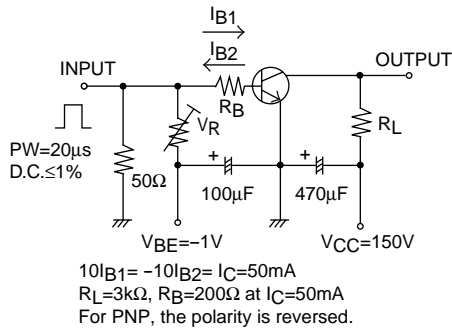
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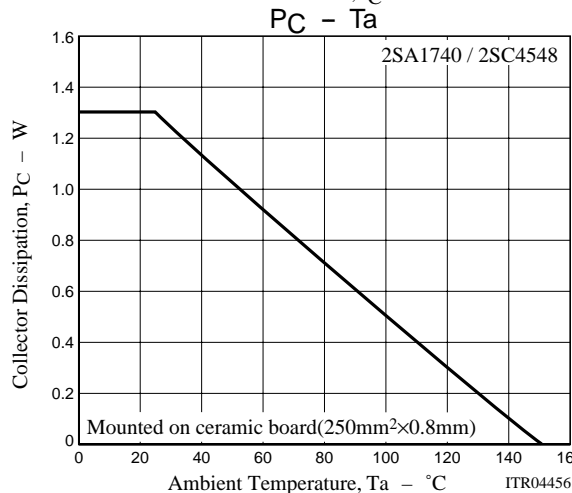
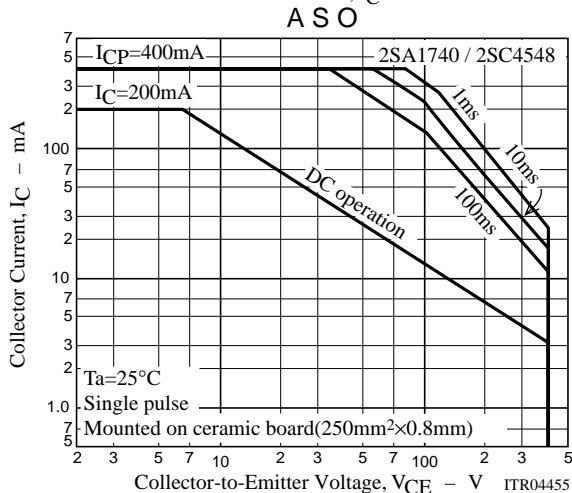
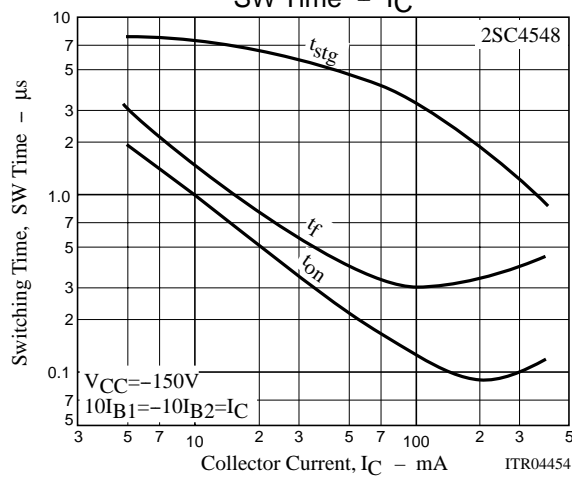
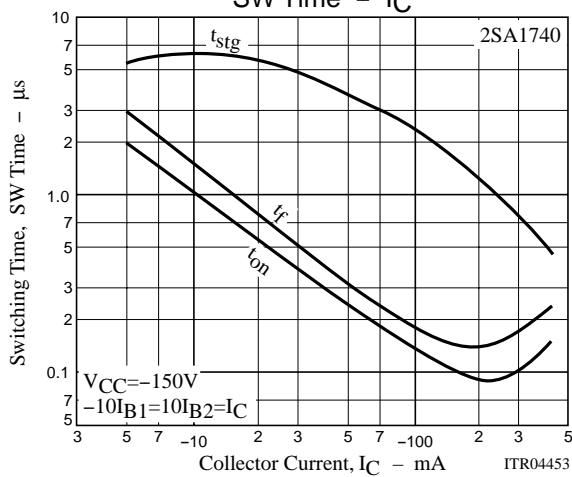
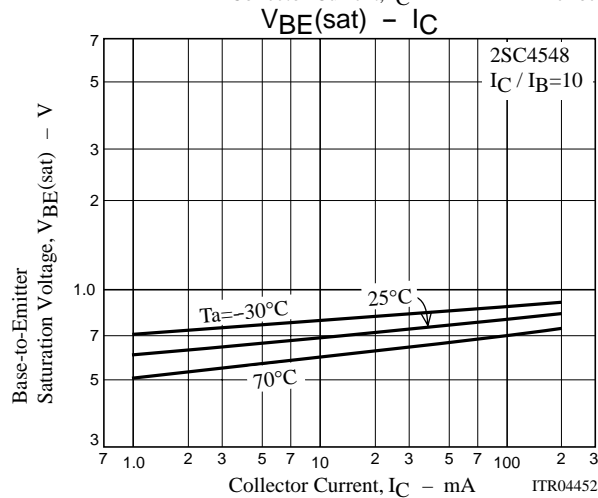
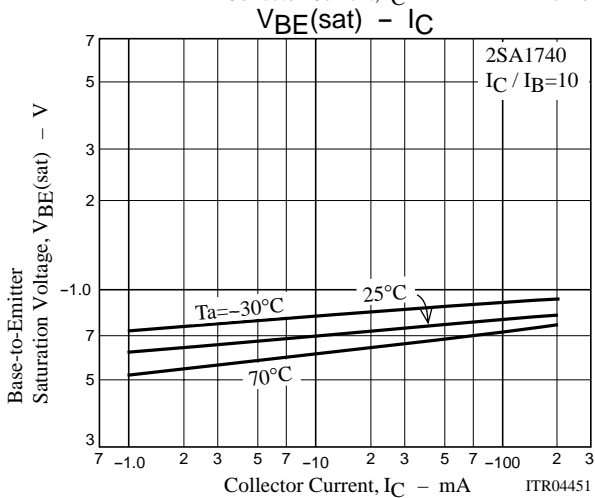
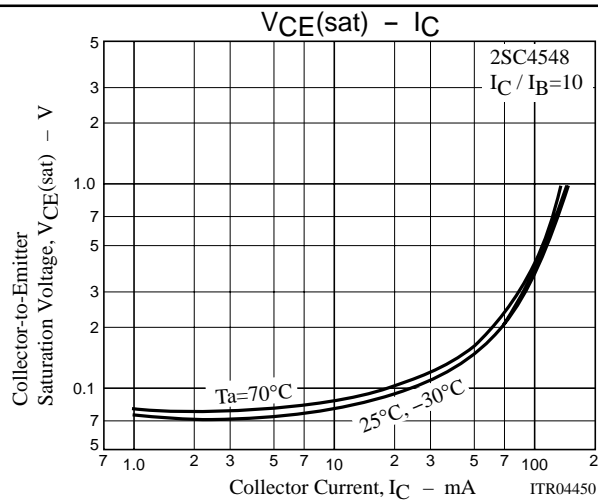
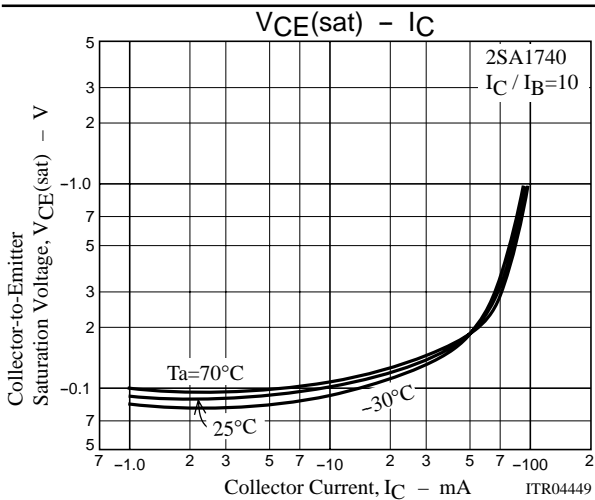
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gain-Bandwidth Product	f_T	$V_{CE}=(-)30V, I_C=(-)10mA$		70		MHz
Output Capacitance	C_{ob}	$V_{CB}=(-)30V, f=1MHz$		(5)4		pF
Reverse Transfer Capacitance	C_{re}	$V_{CB}=(-)30V, f=1MHz$		(4)3		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)50mA, I_B=(-)5mA$		(-)0.8		V
				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	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	(-)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

Switching Time Test Circuit



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