

<b>SANYO</b>	No.3188	<b>2SA1740/2SC4548</b>
PNP Epitaxial Planar Silicon Transistor NPN Triple Diffused Planar Silicon Transistor <b>High-Voltage Driver Applications</b>		

**Features**

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

( ) : 2SA1740

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

			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 ceramic board (250mm <sup>2</sup> × 0.8mm)	1.3 W
Junction Temperature	$T_j$	150	°C
Storage Temperature	$T_{stg}$	-55 to +150	°C

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

			min	typ	max	unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = (-)300\text{V}, I_E = 0$			(-)0.1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = (-)4\text{V}, I_C = 0$			(-)0.1	$\mu\text{A}$
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
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)50\text{mA}, I_B = (-)5\text{mA}$			(-)0.8	0.6 V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)50\text{mA}, I_B = (-)5\text{mA}$			(-)1.0	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu\text{A}, I_E = 0$	(-)400			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1\text{mA}, R_{BE} = \infty$	(-)400			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)10\mu\text{A}, I_C = 0$	(-)5			V
Turn-ON Time	$t_{on}$	See specified Test Circuit.		0.25		$\mu\text{s}$
Turn-OFF Time	$t_{off}$	"/		5.0		$\mu\text{s}$

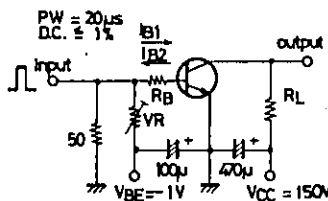
\*: The 2SA1740/2SC4548 are classified by 50mA  $h_{FE}$  as follows:

60 D 120	100 E 200
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Marking 2SA1740 : AK  
2SC4548 : CN

$h_{FE}$  rank : D,E

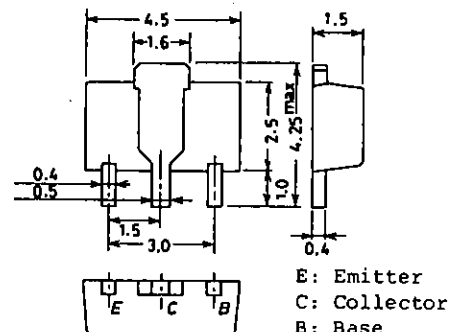
**Switching Time Test Circuit**



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

Unit (Resistance :  $\Omega$ , Capacitance : F)

**Package Dimensions 2038**  
(unit : mm)

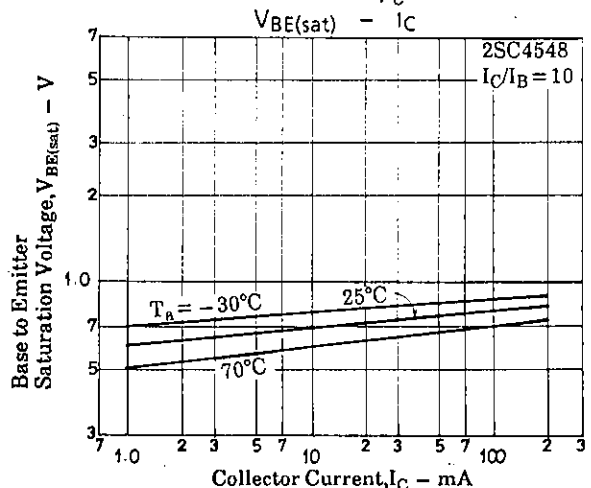
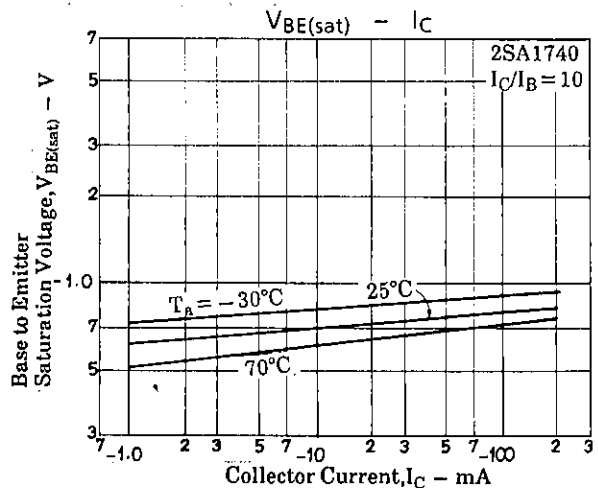
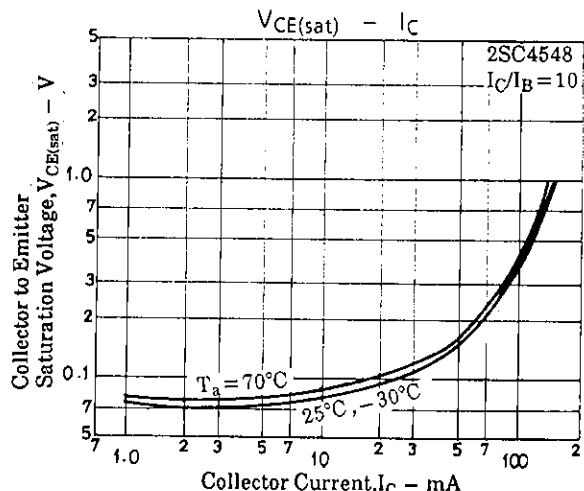
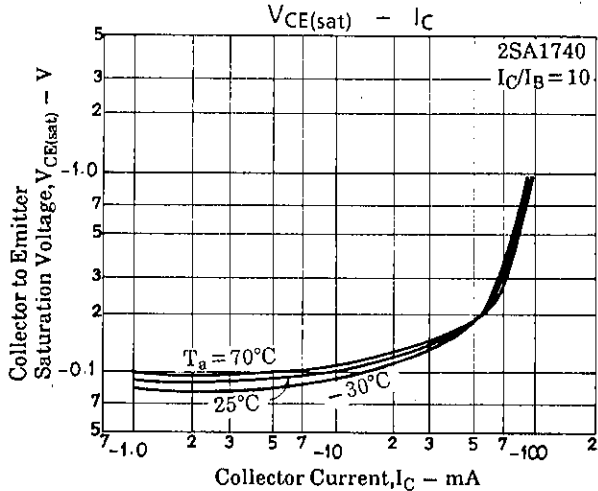
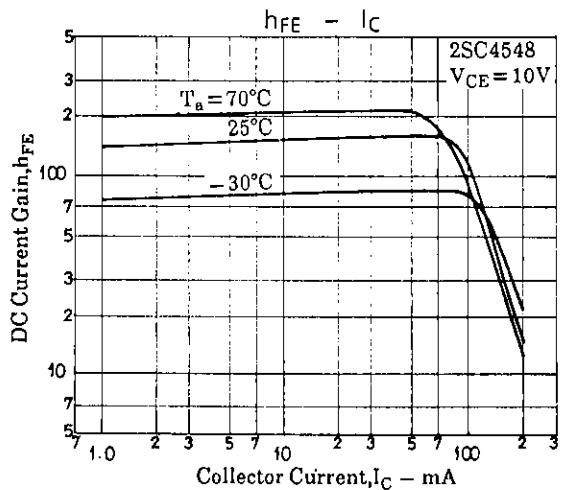
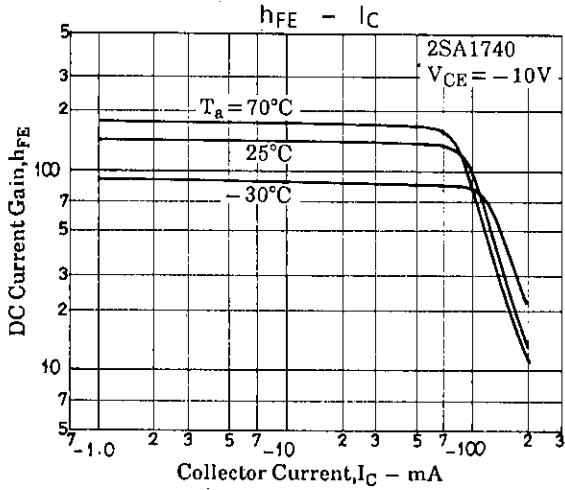
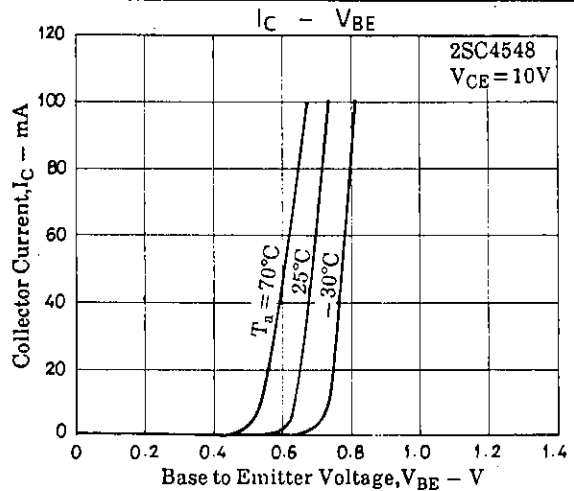
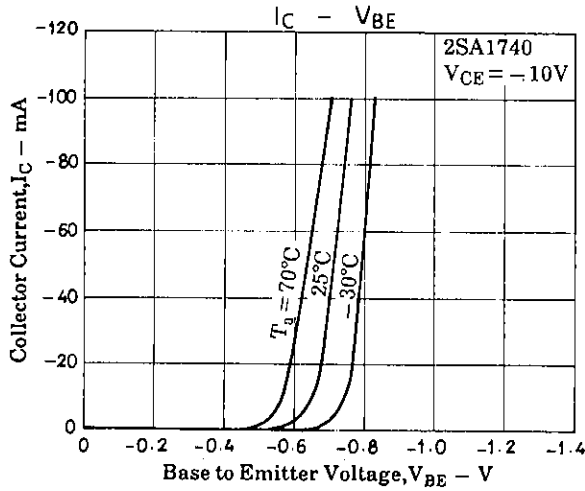


E: Emitter  
C: Collector  
B: Base

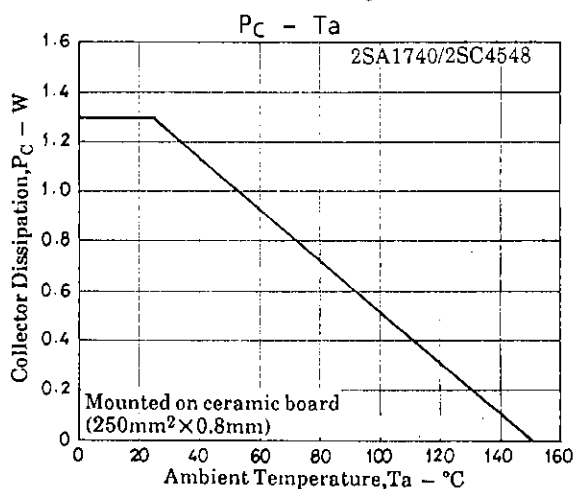
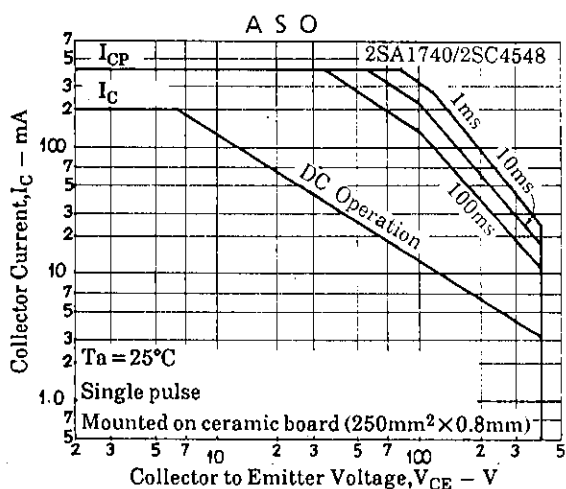
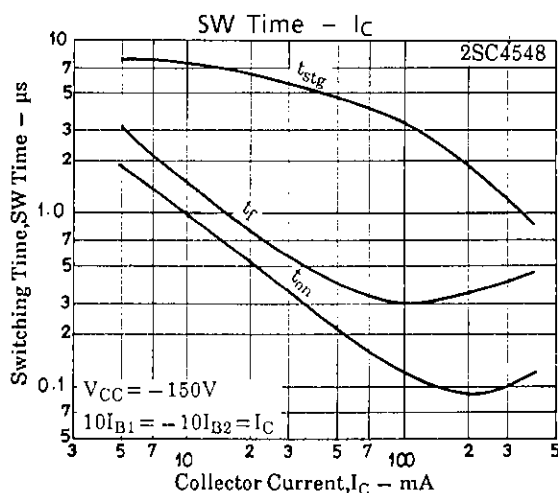
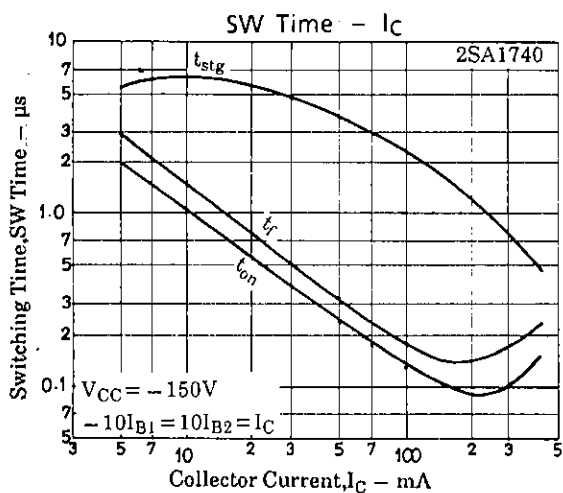
SANYO: PCP  
(Bottom View)

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2SA1740/2SC4548



## 2SA1740/2SC4548



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