

PNP Transistors

2SA1740

■ Features

- Collector Current Capability $I_c = -0.2A$
- Collector Emitter Voltage $V_{CE0} = -400V$
- Complementary to 2SC4548

■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CB0}	-400	V
Collector - Emitter Voltage	V_{CE0}	-400	
Emitter - Base Voltage	V_{EB0}	-5	
Collector Current - Continuous	I_c	-200	mA
Collector Current - Pulse	I_{CP}	-400	
Collector Power Dissipation (Note.1)	P_c	1.3	W
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature range	T_{stg}	-55 to 150	

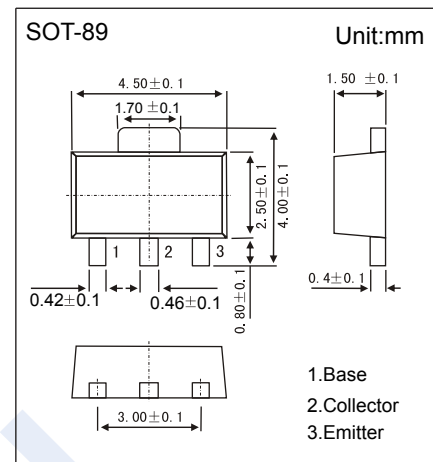
Note.1: Mounted on ceramic board 250mm²X0.8mm

■ Electrical Characteristics $T_a = 25^\circ C$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CB0}	$I_c = -100 \mu A, I_E = 0$	-400			V
Collector- emitter breakdown voltage	V_{CE0}	$I_c = -1 mA, I_B = 0$	-400			
Emitter - base breakdown voltage	V_{EB0}	$I_E = -100 \mu A, I_c = 0$	-5			
Collector-base cut-off current	I_{CB0}	$V_{CB} = -300 V, I_E = 0$			-100	nA
Emitter cut-off current	I_{EB0}	$V_{EB} = -4V, I_c = 0$			-100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c = -50 mA, I_B = -5mA$			-0.6	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_c = -50 mA, I_B = -5mA$			-1	
DC current gain	h_{FE}	$V_{CE} = -10V, I_c = -50mA$	60		200	
Turn-on time	t_{on}	See Specified Test Circuit		0.25		us
Turn-off time	t_{off}			5		
Collector output capacitance	C_{ob}	$V_{CB} = -30V, f = 1MHz$		5		pF
Reverse Transfer	C_{re}	$V_{CB} = -30V, f = 1MHz$		4		
Transition frequency	f_T	$V_{CE} = -30V, I_c = -10mA$		70		MHz

■ Classification of h_{FE}

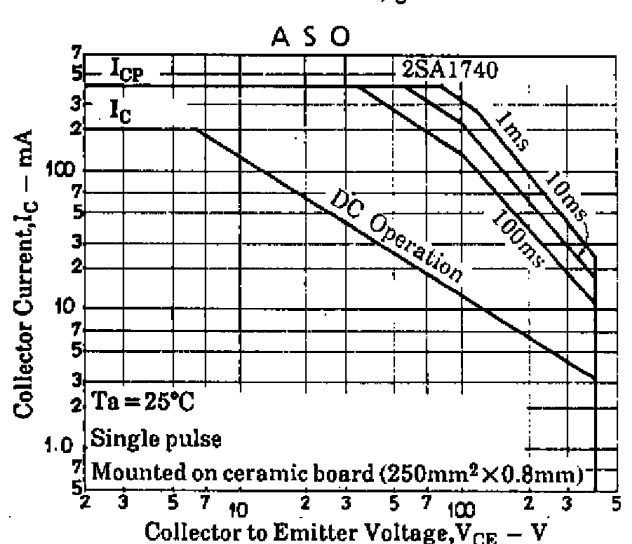
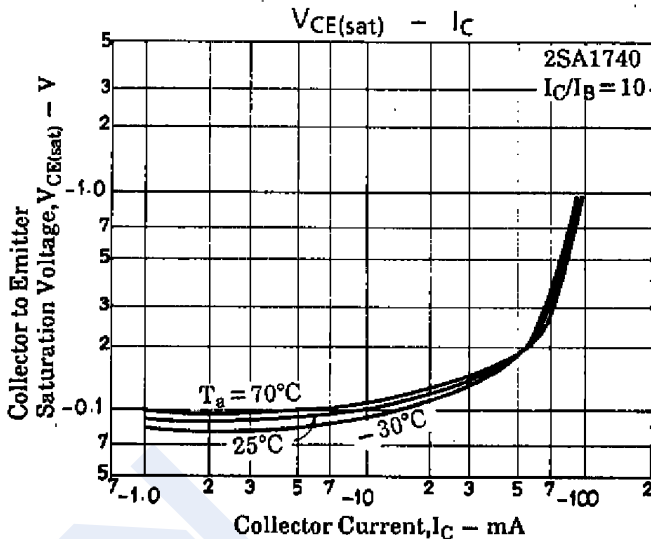
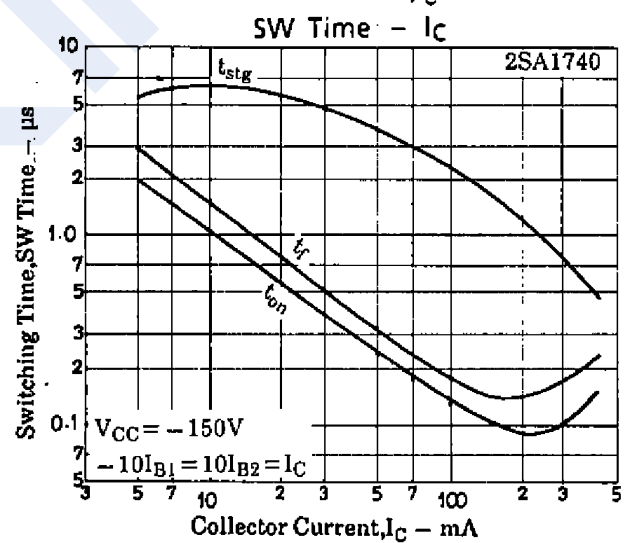
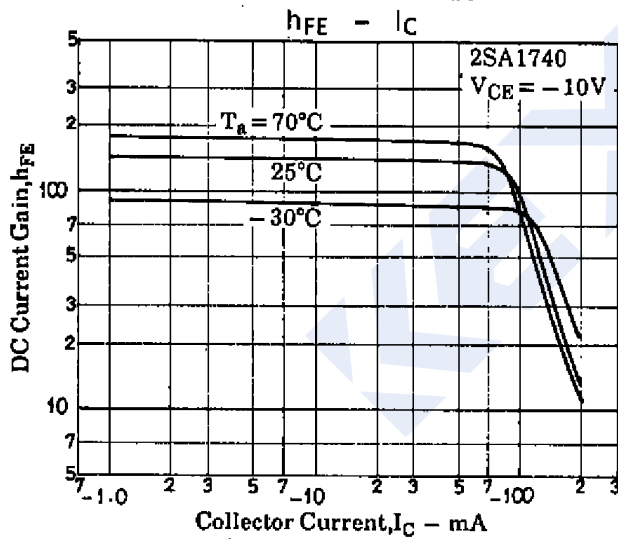
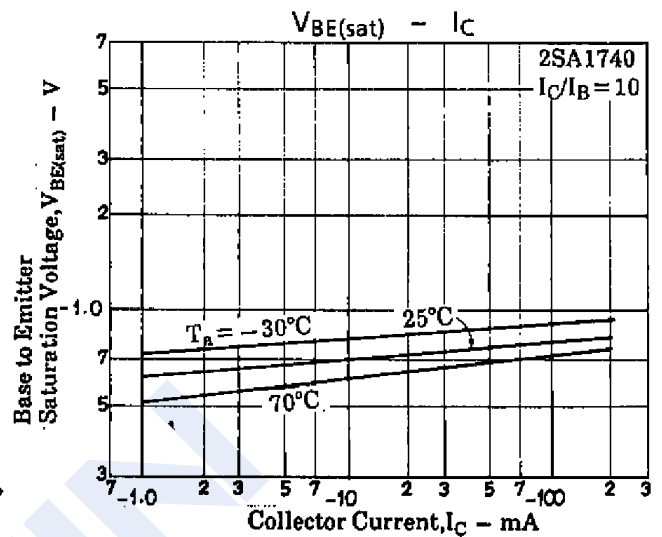
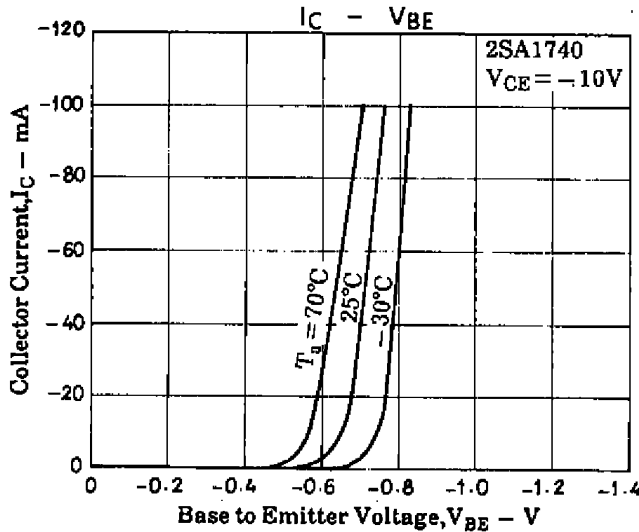
Type	2SA1740-D	2SA1740-E
Range	60-120	100-200
Marking	AK D*	AK E*



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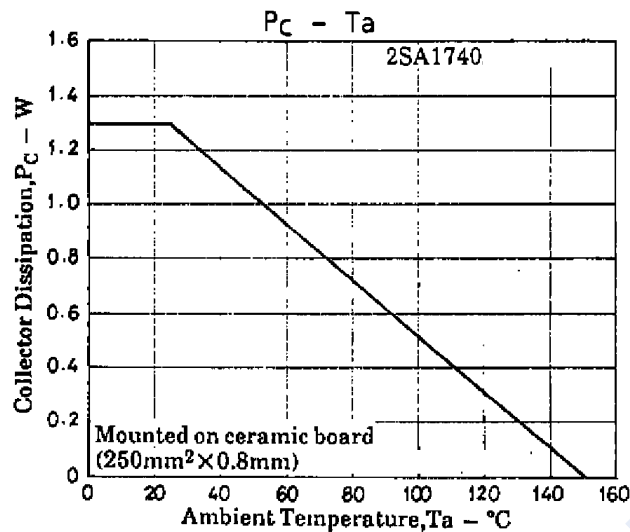
■ Typical Characteristics



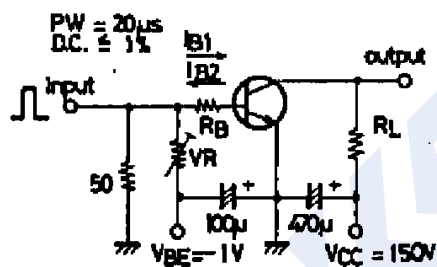
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■ Typical Characteristics



Switching Time Test Circuit



$$10I_{B1} = -10I_{B2} = I_C = 50mA$$

$$R_L = 3k\Omega, R_B = 200\Omega \text{ at } I_C = 50mA$$

For PNP, the polarity is reversed.

Unit (Resistance : Ω , Capacitance : F)