

NPN Transistors

2SC4548

■ Features

- Collector Current Capability $I_C=0.2A$
- Collector Emitter Voltage $V_{CE0}=400V$
- Complementary to 2SA1740

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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	400	V
Collector - Emitter Voltage	V_{CEO}	400	
Emitter - Base Voltage	V_{EBO}	5	
Collector Current - Continuous	I_C	0.2	A
Collector Current - Pulse	I_{CP}	0.4	
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	

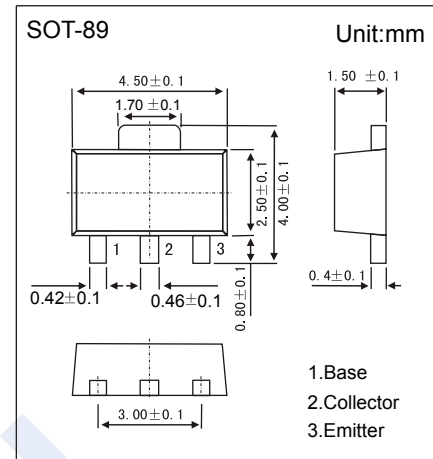
Note.1 : Mounted on ceramic substrate of $250mm^2 \times 0.8mm$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_C = 100 \mu A, I_E = 0$	400			V
Collector- emitter breakdown voltage	V_{CEO}	$I_C = 1 mA, R_{BE} = \infty$	400			
Emitter - base breakdown voltage	V_{EBO}	$I_E = 100 \mu A, I_C = 0$	5			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 300 V, I_E = 0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 4 V, I_C = 0$			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 50 mA, I_B = 5 mA$			0.6	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 50 mA, I_B = 5 mA$			1	
DC current gain	h_{FE}	$V_{CE} = 10 V, I_C = 50 mA$	60		200	
Turn-on time	t_{on}	See Specified Test Circuit			0.25	μS
Turn-off time	t_{off}				5	
Collector output capacitance	C_{ob}	$V_{CB} = 30 V, f = 1 MHz$		4		pF
Reverse Transfer	C_{re}			3		
Transition frequency	f_T	$V_{CE} = 30 V, I_C = 10 mA$		70		MHz

■ Classification of h_{fe}

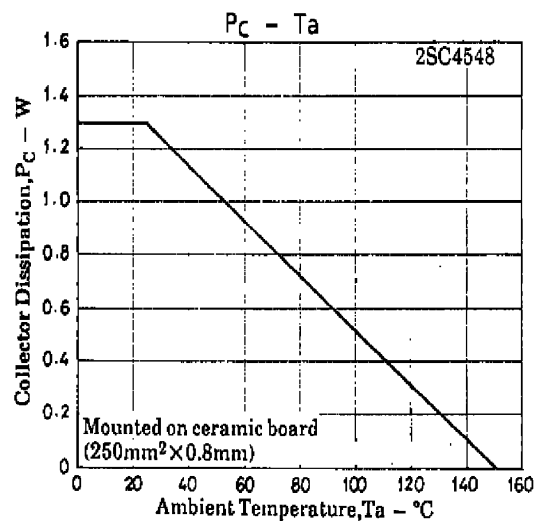
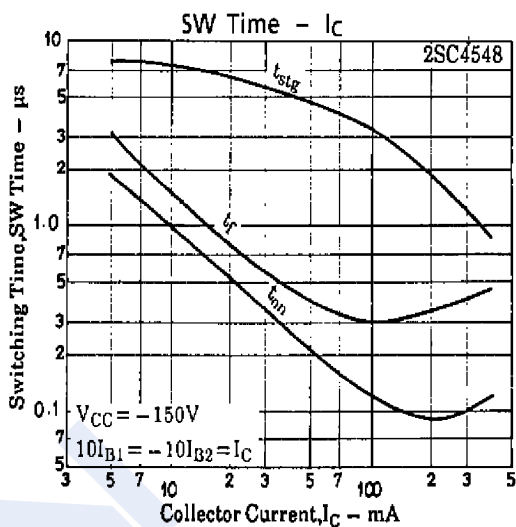
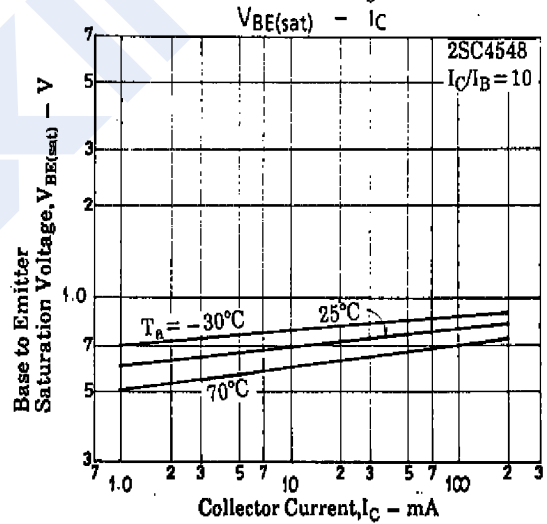
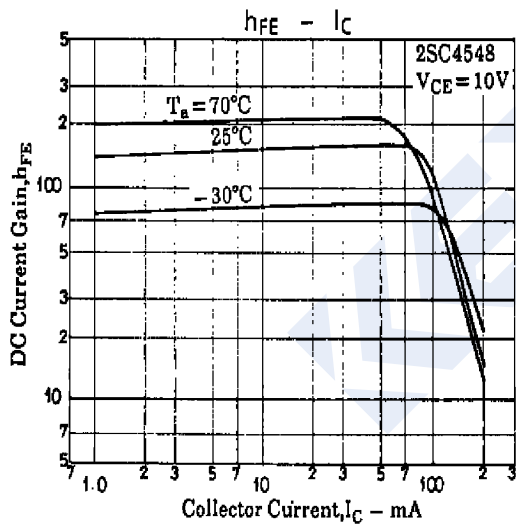
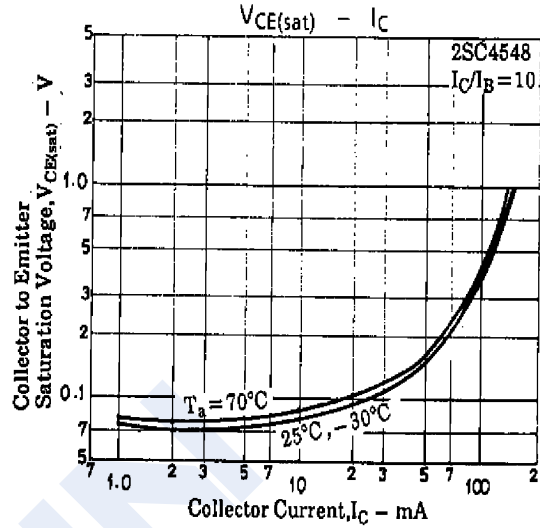
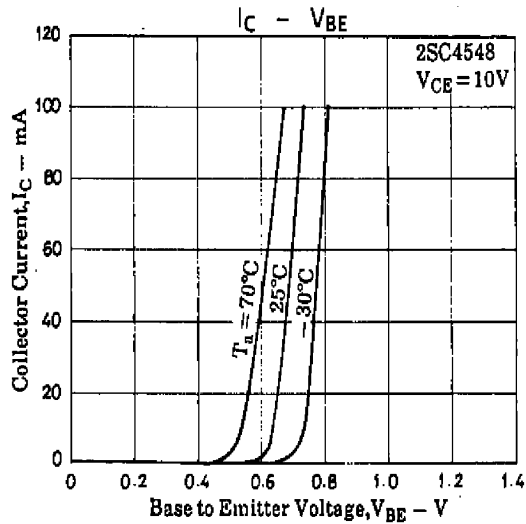
Type	2SC4548-D	2SC4548-E
Range	60-120	100-200
Marking	CN D*	CN E*



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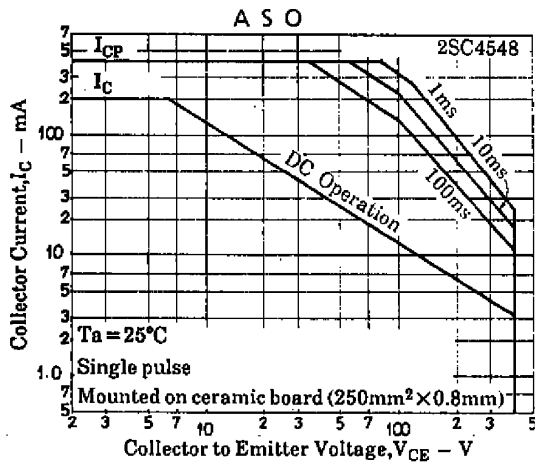
■ Typical Characteristics



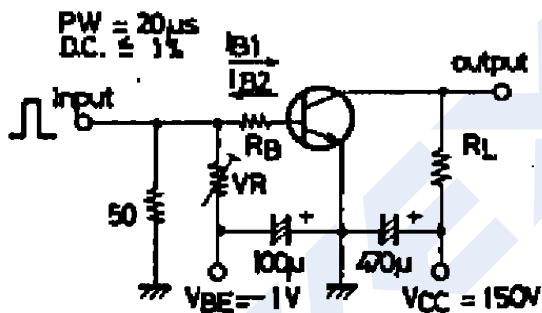
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■ Typical Characteristics



Switching Time Test Circuit



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

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

For PNP, the polarity is reversed.

Unit (Resistance : Ω , Capacitance : F)