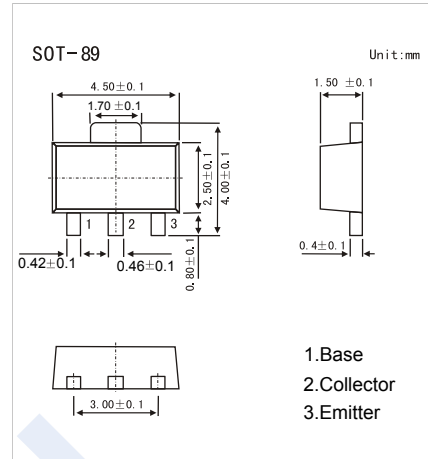


NPN Transistors

2SC3645

■ Features

- High breakdown voltage
- Excellent linearity of hFE and small Cob.
- Fast switching speed.
- Small Package For Mounting
- Complementary to 2SA1415



■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V _{CB0}	180	V
Collector - Emitter Voltage	V _{CEO}	160	
Emitter - Base Voltage	V _{EB0}	5	
Collector Current - Continuous	I _C	140	mA
Peak Collector Current	I _{CM}	200	
Collector Power Dissipation	P _C	500	mW
Junction Temperature	T _J	150	°C
Storage Temperature Range	T _{stg}	-55 to 150	

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Collector- base breakdown voltage	V _{CB0}	I _C = 100 μA, I _E = 0	180			V	
Collector- emitter breakdown voltage	V _{CEO}	I _C = 1 mA, I _B = 0	160				
Emitter - base breakdown voltage	V _{EB0}	I _E = 100 μA, I _C = 0	5				
Collector-base cut-off current	I _{CB0}	V _{CB} = 80 V, I _E = 0			0.1	uA	
Emitter cut-off current	I _{EB0}	V _{EB} = 4V, I _C =0			0.1		
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =50 mA, I _B =5mA		0.07	0.3	V	
Base - emitter saturation voltage	V _{BE(sat)}	I _C =50 mA, I _B =5mA			1.2		
DC current gain	h _{FE}	V _{CE} = 5V, I _C = 10mA	100		400		
Turn-ON Time	t _{on}	See sepcified Test Circuit.		0.1		us	
Storage Time	t _{stg}				1.5		
Fall Time	t _f				0.1		
Collector output capacitance	C _{ob}	V _{CB} = 10V, f=1MHz		3		pF	
Transition frequency	f _T	V _{CE} = 10V, I _C = 10mA		150		MHz	

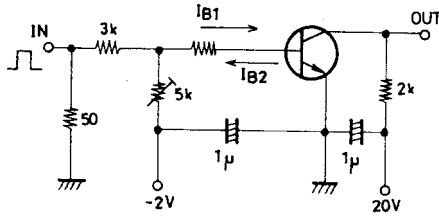
■ Classification of h_{FE}

Type	2SC3645-R	2SC3645-R	2SC3645-T
Range	100-200	140-280	200-400
Marking	CAR	CAS	CAT

NPN Transistors

2SC3645

Switching Time Test Circuit

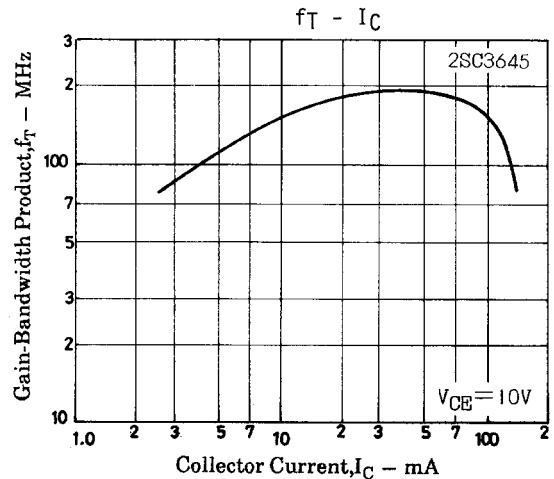
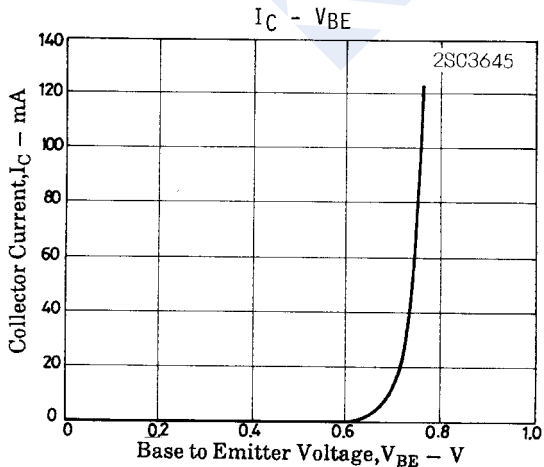
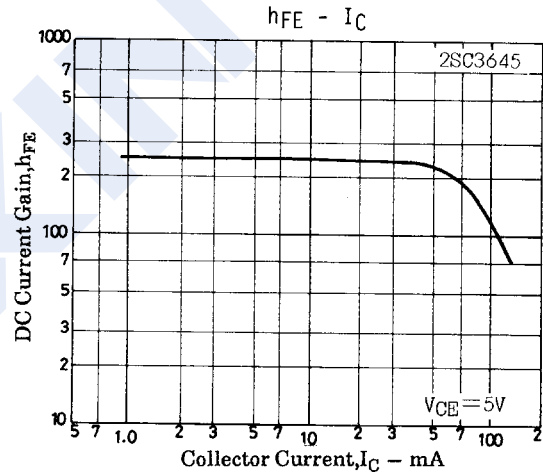
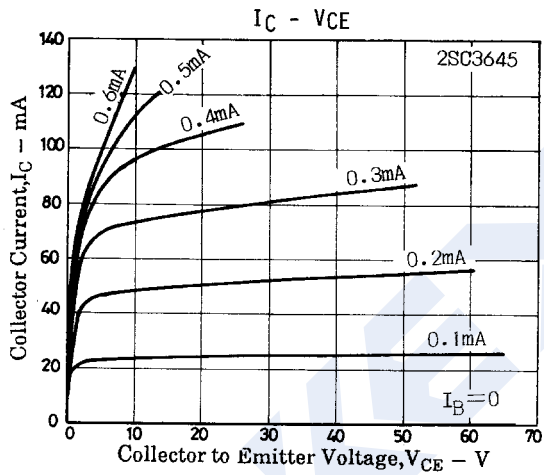


$$I_C = 10I_{B1} = 10I_{B2} = 10\text{mA}$$

(For PNP, the polarity is reversed)

Unit (resistance : Ω , capacitance : F)

■ Typical Characteristics



NPN Transistors

2SC3645

■ Typical Characteristics

