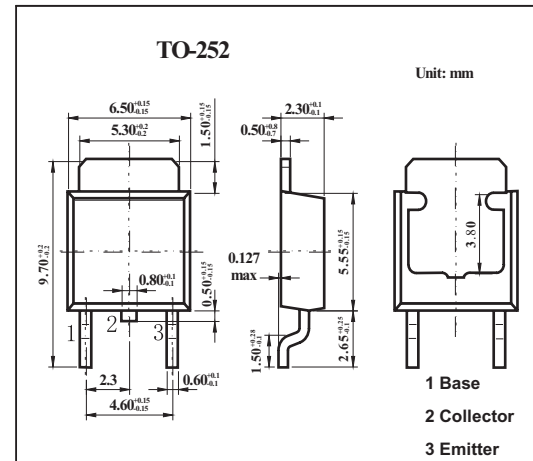


## Silicon NPN Triple Diffused Type Transistor

## 2SC4616

## ■ Features

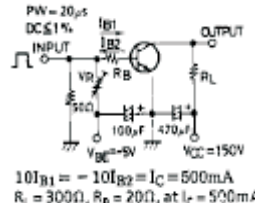
- Large current capacity ( $I_c=2A$ )
- High blocking voltage ( $V_{CE0} \geq 400V$ )

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

Parameter	Symbol	Rating	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
Peak collector current	$I_{CP}$	4	A
Collector current	$I_c$	2	A
Collector power dissipation $T_C=25^\circ C$	$P_c$	1	W
		15	W
Junction temperature	$T_j$	150	$^\circ C$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ C$

## 2SC4616

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit	
Collector cut-off Current	I <sub>CBO</sub>	V <sub>CB</sub> =300V, I <sub>E</sub> =0			1	μA	
Emitter Cut-off Current	I <sub>EBO</sub>	V <sub>EB</sub> =4V, I <sub>C</sub> =0			1	μA	
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =100mA	40		200		
Gain-Bandwidth product	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =100mA		60		MHz	
C-E Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA			1	V	
B-E Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA			1	V	
C-B Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =10μA, I <sub>E</sub> =0	400			V	
C-E Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =1mA, R <sub>BE</sub> =∞	400			V	
E-B Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =10μA, I <sub>C</sub> =0	5			V	
Output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =30V, f=1MHz		15		pF	
Turn-ON Time	t <sub>on</sub>	 <p> <math>PW = 20\mu s</math>  <math>DC \leq 1V</math>  <math>IB1</math>  <math>IB2</math>  <math>RB</math>  <math>RC</math>  <math>RL</math>  <math>V_{BE} = -5V</math>  <math>V_{CE} = 150V</math>  <math>10IB1 = 10IB2 = I_C = 500mA</math>  <math>R_L = 300\Omega, R_B = 20\Omega, \text{ at } I_C = 500mA</math> </p>		0.085		μs	
Storage Time	t <sub>stg</sub>				4		
Fall Time	t <sub>r</sub>				0.6		

## ■ hFE Classification

TYPE	C	D	E
hFE	40 to 80	60 to 120	100 to 200