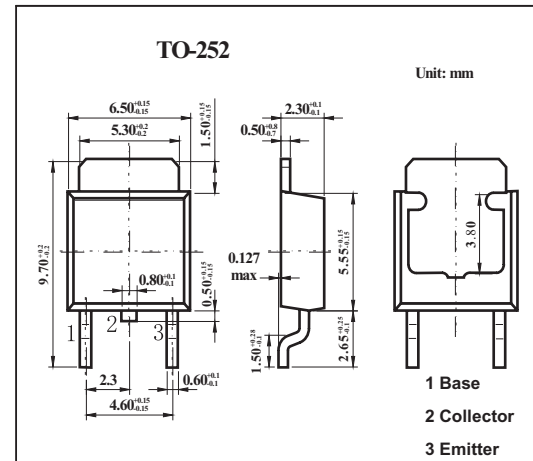


## High Voltage Switching Transistor

## 2SC5161

## ■ Features

- Low  $V_{CE(sat)}$ .  
 $V_{CE(sat)} = 0.15V$  (Typ.),  $I_C / I_B = 1A / 0.2A$
- High breakdown voltage.  $V_{CEO} = 400V$
- Fast switching.  $t_r = 1.0\mu s$ ,  $I_C = 0.8A$
- NPN silicon transistor

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

Parameter	Symbol	Rating	Unit
Collector to base voltage	$V_{CBO}$	400	V
Collector to emitter voltage	$V_{CES}$	400	V
Emitter to base voltage	$V_{EBO}$	7	V
Peak collector current *	$I_{CP}$	4	A(Puse)
Collector current	$I_C$	2	A(DC)
Collector power dissipation	$P_C$	$T_C = 25^\circ C$	10
		$T_a = 25^\circ C$	1
Junction temperature	$T_j$	150	$^\circ C$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ C$

\* Single pulse  $p_w=10ms$

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## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	BV <sub>CB0</sub>	I <sub>c</sub> =50μA	400			V
collector-emitter breakdown voltage	BV <sub>CEO</sub>	I <sub>c</sub> =1mA	400			V
collector-emitter voltage	V <sub>CEO(SUS)</sub>	I <sub>c</sub> =1.0A, I <sub>B1</sub> =0.1A, L=1mH	400			V
Emitter-base breakdown voltage	BV <sub>EB0</sub>	I <sub>E</sub> =50μA	7			V
collector cutoff current	I <sub>CB0</sub>	V <sub>CB</sub> =400V			10	μA
Emitter cutoff current	I <sub>EB0</sub>	V <sub>EB</sub> =7V			10	μA
Collector to emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>c</sub> /I <sub>B</sub> =1A/0.2A			1	V
Base to emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>c</sub> /I <sub>B</sub> =1A/0.2A			1.5	V
DC current transfer ratio	h <sub>FE</sub>	V <sub>CE</sub> =5V, I <sub>c</sub> =0.1A	25		50	
Transition frequency	f <sub>r</sub>	V <sub>CE</sub> =10V, I <sub>E</sub> =-0.1A, f=5MHz		10		MHz
Output capacitance	c <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0A, f=1MHz		30		pF
Turn-on time	t <sub>on</sub>	I <sub>c</sub> =0.8A, R <sub>L</sub> =250Ω			1	μs
Storage time	t <sub>stg</sub>	I <sub>B1</sub> =-I <sub>B2</sub> =0.08A			2.5	μs
Fall time	t <sub>f</sub>	V <sub>CC</sub> =200V			1	μs

## ■ hFE Classification

Item	B
hFE	25 to 50