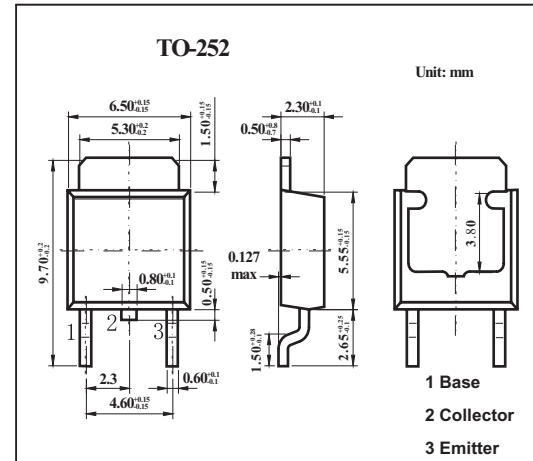


## PNP Silicon Transistor

### 2SA1412-Z

#### ■ Features

- High Voltage:  $V_{CE0}=-400V$
- High speed:  $t_r \leq 0.7\mu s$



#### ■ 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	$V_{EBO}$	-7	V
Collector Current (DC)	$I_C$	-2	A
Collector Current (Pulse) *1	$I_C$	-4	A
Total power Dissipation ( $T_a=25^\circ C$ ) *2	$P_T$	2	W
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature	$T_{stg}$	-55 to 150	$^\circ C$

\*1  $p_w \leq 10ms, Duty\ Cycle \leq 50\%$

\*2 When mounted on ceramic substrate of  $7.5cm^2 \times 0.7mm$

## 2SA1412-Z

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector Cutoff Current	IcBO	V <sub>CB</sub> =-400V, I <sub>E</sub> =0			-10	μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =-5V, I <sub>C</sub> =0			-10	μA
DC Current Gain*	h <sub>FE</sub>	V <sub>CE</sub> =-5V, I <sub>C</sub> =-0.1A	40	60	120	
		V <sub>CE</sub> =-5V, I <sub>C</sub> =-1.0A	10	22		
Collector Saturation Voltage *	V <sub>CE(sat)</sub>	I <sub>C</sub> =-0.5A, I <sub>B</sub> =-0.1A		-0.25	-0.5	V
Base Saturation Voltage *	V <sub>BE(sat)</sub>	I <sub>C</sub> =-0.5mA, I <sub>B</sub> =-0.1mA		-0.85	-1.2	V
Gain Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =-10V, I <sub>E</sub> =-100mA		40		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =-10V, I <sub>E</sub> =0, f=1.0MHz		30		pF
Turn-on Time	t <sub>on</sub>	I <sub>C</sub> =-1A, R <sub>L</sub> =150Ω I <sub>B1</sub> =-I <sub>B2</sub> =-0.2A, V <sub>CC</sub> =-150V		0.03	0.5	μs
Storage Time	t <sub>stg</sub>			1.4	2	
Fall time	t <sub>f</sub>			0.1	0.7	

\* PW ≤ 350μs, Duty Cycle ≤ 2%

## ■ hFE Classification

Marking	L	K
hFE	40 to 80	60 to 120