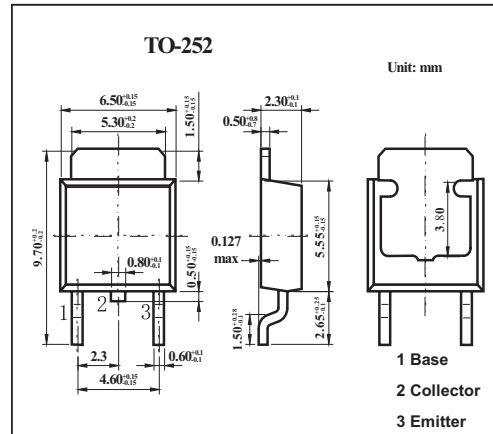


## PNP Silicon Transistor

## 2SA1413-Z

## ■ Features

- High Voltage:  $V_{CE0} = -600V$
- High speed:  $t_r \leq 1.0\mu s$

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

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	$V_{CB0}$	-600	V
Collector to Emitter Voltage	$V_{CE0}$	-600	V
Emitter to Base Voltage	$V_{EB0}$	-7	V
Collector Current (DC)	$I_c$	-1	A
Collector Current (Pulse) *1	$I_c$	-2	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  $7.5cm^2 \times 0.7mm$

**2SA1413-Z**■ Electrical Characteristics  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=-600V, I_E=0$			-10	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=-7V, I_C=0$			-10	$\mu\text{A}$
DC Current Gain*	$h_{FE}$	$V_{CE}=-5V, I_C=-0.1A$	30	58	120	
		$V_{CE}=-5V, I_C=-0.5A$	5	19		
Collector Saturation Voltage *	$V_{CE(sat)}$	$I_C=-0.3A, I_B=-60mA$		-0.28	-1	V
Base Saturation Voltage *	$V_{BE(sat)}$	$I_C=-0.3A, I_B=-60mA$		-0.85	-1.2	V
Gain Bandwidth Product	fT	$V_{CE}=-10V, I_E=-50mA$		28		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=-10V, I_E=0, f=1.0MHz$		42		pF
Turn-on Time	$t_{on}$	$I_C=-0.5A, R_L=500\Omega$ $I_{B1}=-I_{B2}=-0.1A, V_{CC}=-250V$		0.1	0.5	$\mu\text{s}$
Storage Time	$t_{stg}$			3.5	5.0	
Fall time	$t_f$			0.08	0.5	

\*  $PW \leq 350\mu\text{s}, \text{Duty Cycle} \leq 2\%$ 

## ■ hFE Classification

Marking	M	L	K
hFE	30 to 60	40 to 80	60 to 120