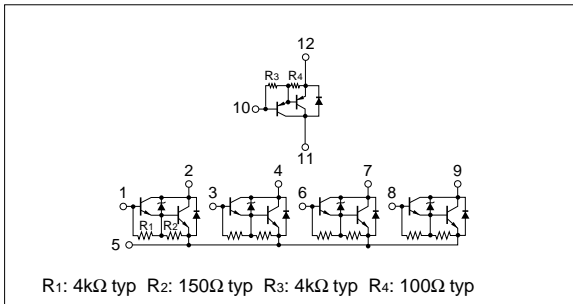


## Absolute maximum ratings

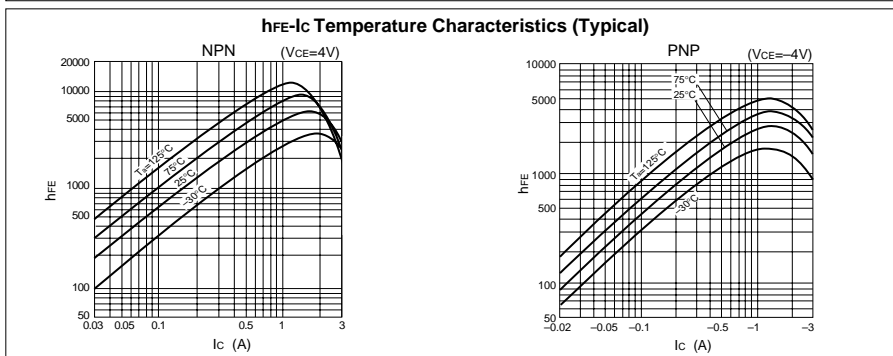
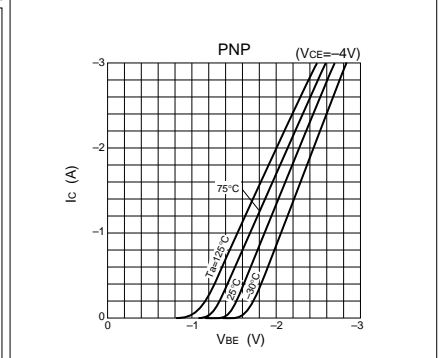
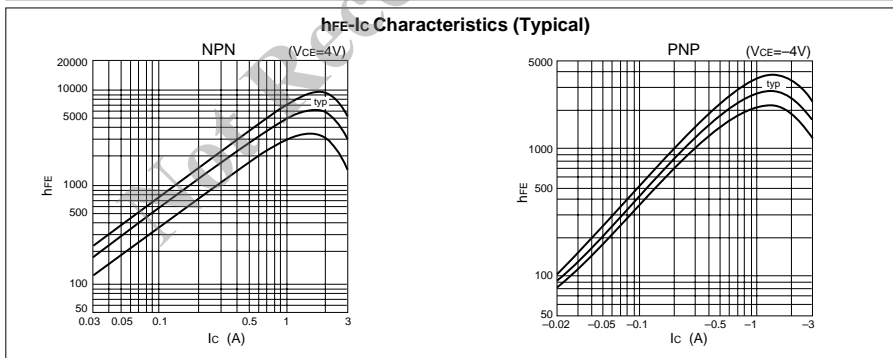
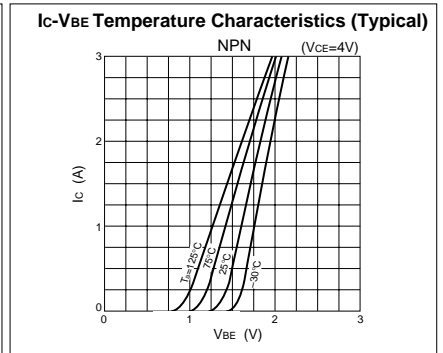
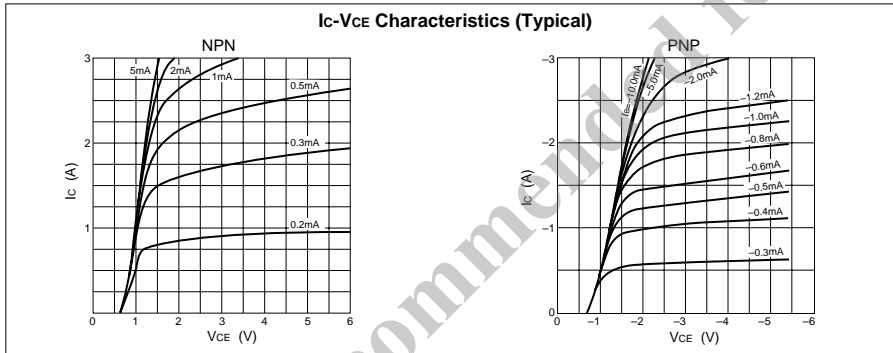
( $T_a=25^\circ\text{C}$ )

Symbol	Ratings		Unit
	NPN	PNP	
$V_{CBO}$	100±15	-60	V
$V_{CEO}$	100±15	-60	V
$V_{EBO}$	6	-6	V
$I_{CP}$	1.5	-3	A
$I_B$	0.5	-0.5	A
$P_T$	4 ( $T_a=25^\circ\text{C}$ )		W
	20 ( $T_c=25^\circ\text{C}$ )		
$T_j$	150		$^\circ\text{C}$
$T_{stg}$	-40 to +150		$^\circ\text{C}$

## Equivalent circuit diagram



## Characteristic curves

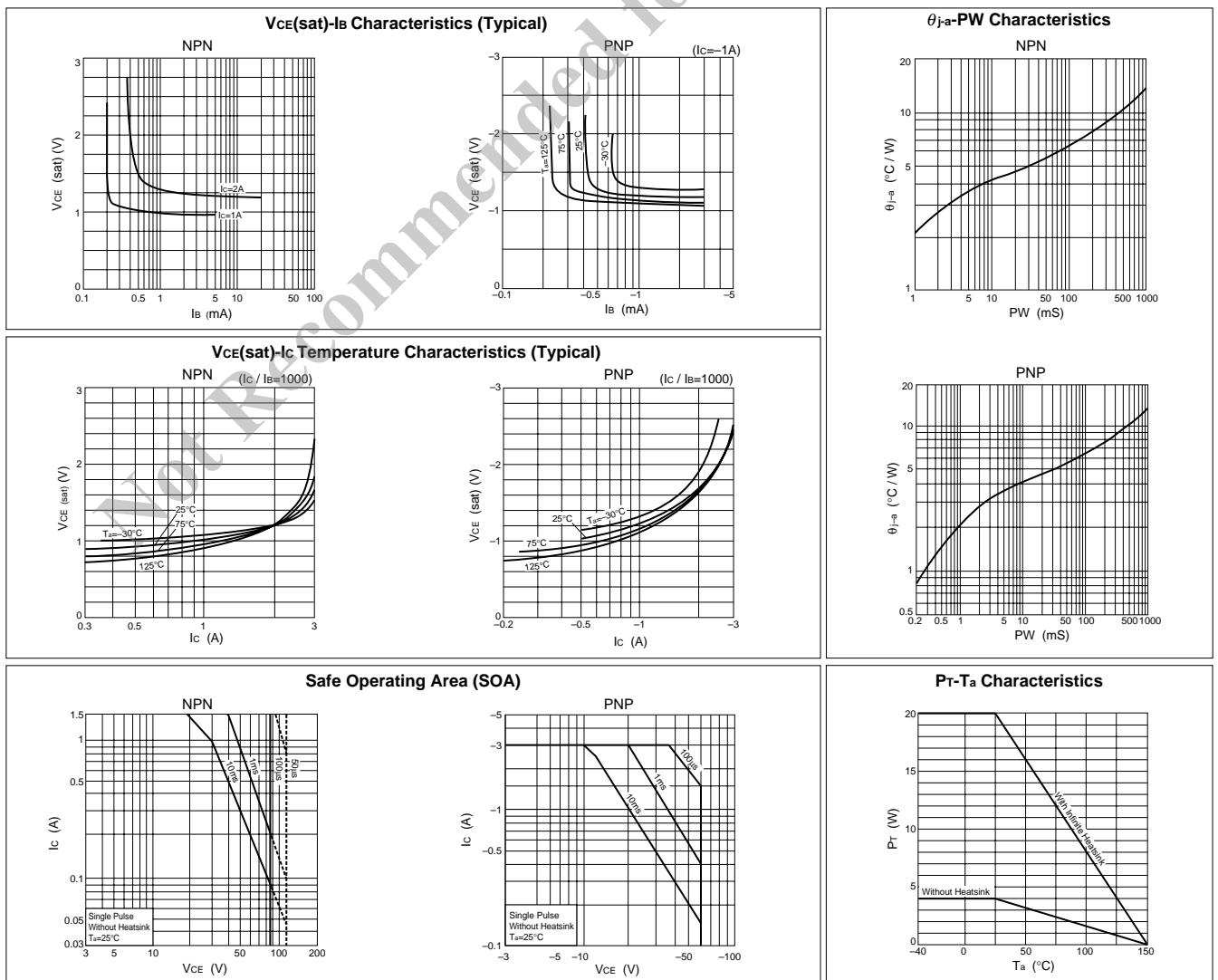


## Electrical characteristics

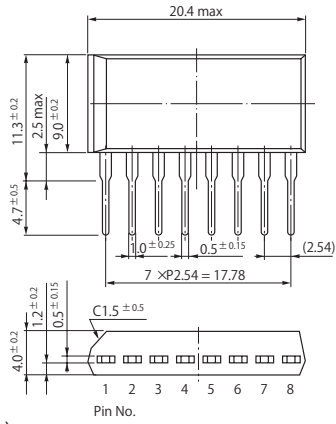
( $T_a=25^\circ\text{C}$ )

Symbol	NPN					PNP				
	Specification			Unit	Conditions	Specification			Unit	Conditions
	min	typ	max			min	typ	max		
$I_{CBO}$			10	$\mu\text{A}$	$V_{CB}=85\text{V}$			-10	$\mu\text{A}$	$V_{CB}=-60\text{V}$
$I_{EBO}$			5	$\text{mA}$	$V_{EB}=6\text{V}$			-10	$\text{mA}$	$V_{EB}=-6\text{V}$
$V_{CEO}$	85	100	115	$\text{V}$	$I_C=10\text{mA}$	-60			$\text{V}$	$I_C=-10\text{mA}$
$h_{FE}$	2000				$V_{CE}=4\text{V}, I_C=1\text{A}$	2000				$V_{CE}=-4\text{V}, I_C=-1\text{A}$
$V_{CE}(\text{sat})$			1.5	$\text{V}$	$I_C=1\text{A}, I_B=2\text{mA}$			-1.5	$\text{V}$	$I_C=-1\text{A}, I_B=-2\text{mA}$

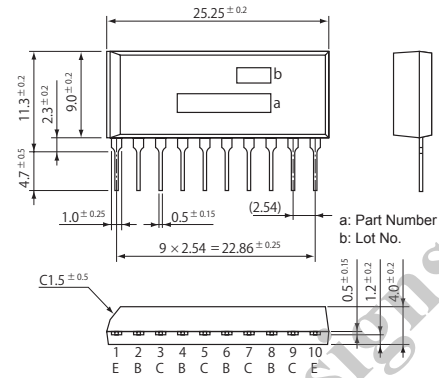
## Characteristic curves



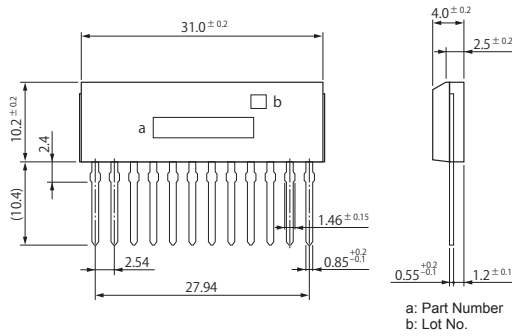
• SIP 8 (STA8Pin)



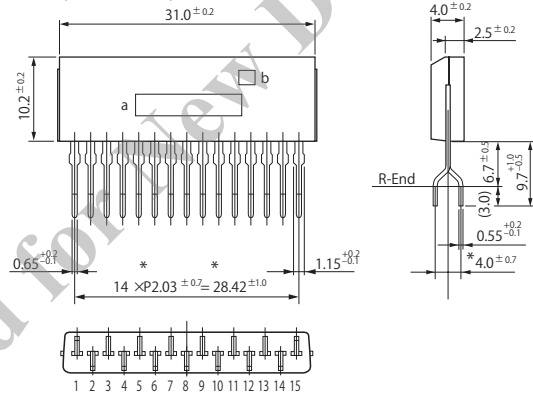
• SIP 10 (STA10Pin)



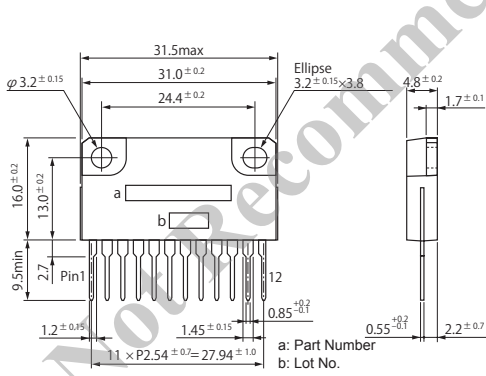
• SIP 12 (SMA12Pin)



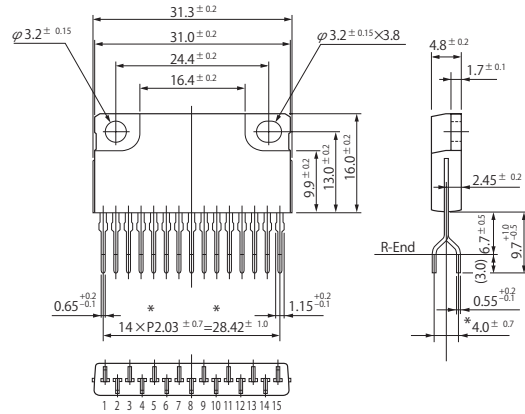
• SIP 15 (SMA15Pin)



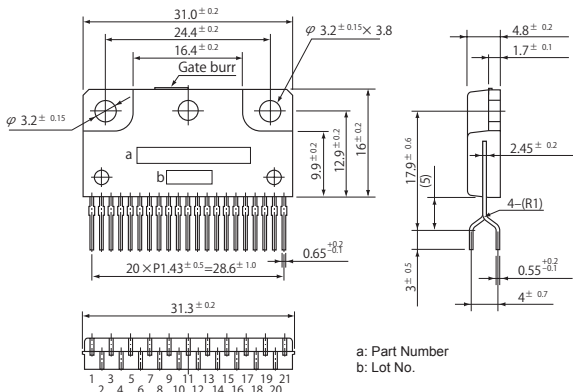
• SIP 12 with Fin (SLA12Pin)



• SIP 15 with Fin (SLA15Pin)



• SIP 21 with Fin (SLA21Pin)



(Unit:mm)