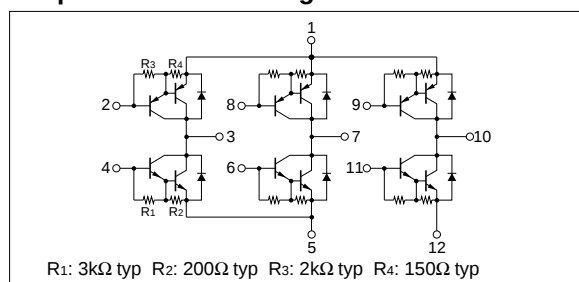


Absolute maximum ratings

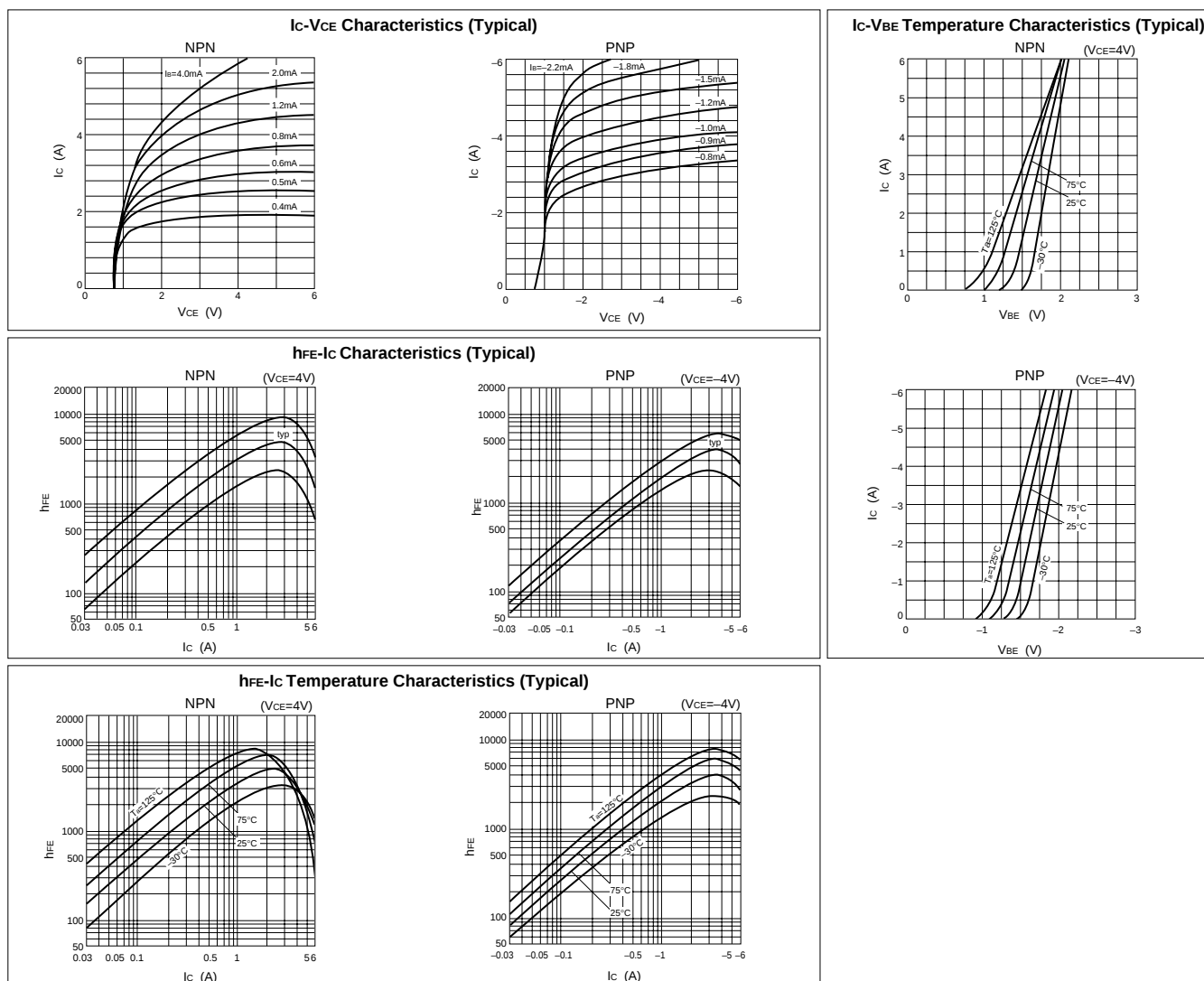
($T_a=25^\circ\text{C}$)

Symbol	Ratings		Unit
	NPN	PNP	
V _{CBO}	60	−60	V
V _{CEO}	60	−60	V
V _{EBO}	6	−6	V
I _C	4	−4	A
I _{CP}	6 (PW≤1ms, Du≤50%)	−6 (PW≤1ms, Du≤50%)	A
I _B	0.5	−0.5	A
P _T	4 (T _a =25°C)		W
	20 (T _c =25°C)		
T _j	150		°C
T _{stg}	−40 to +150		°C
θ _{J-c}	6.25		°C/W

Equivalent circuit diagram



Characteristic curves

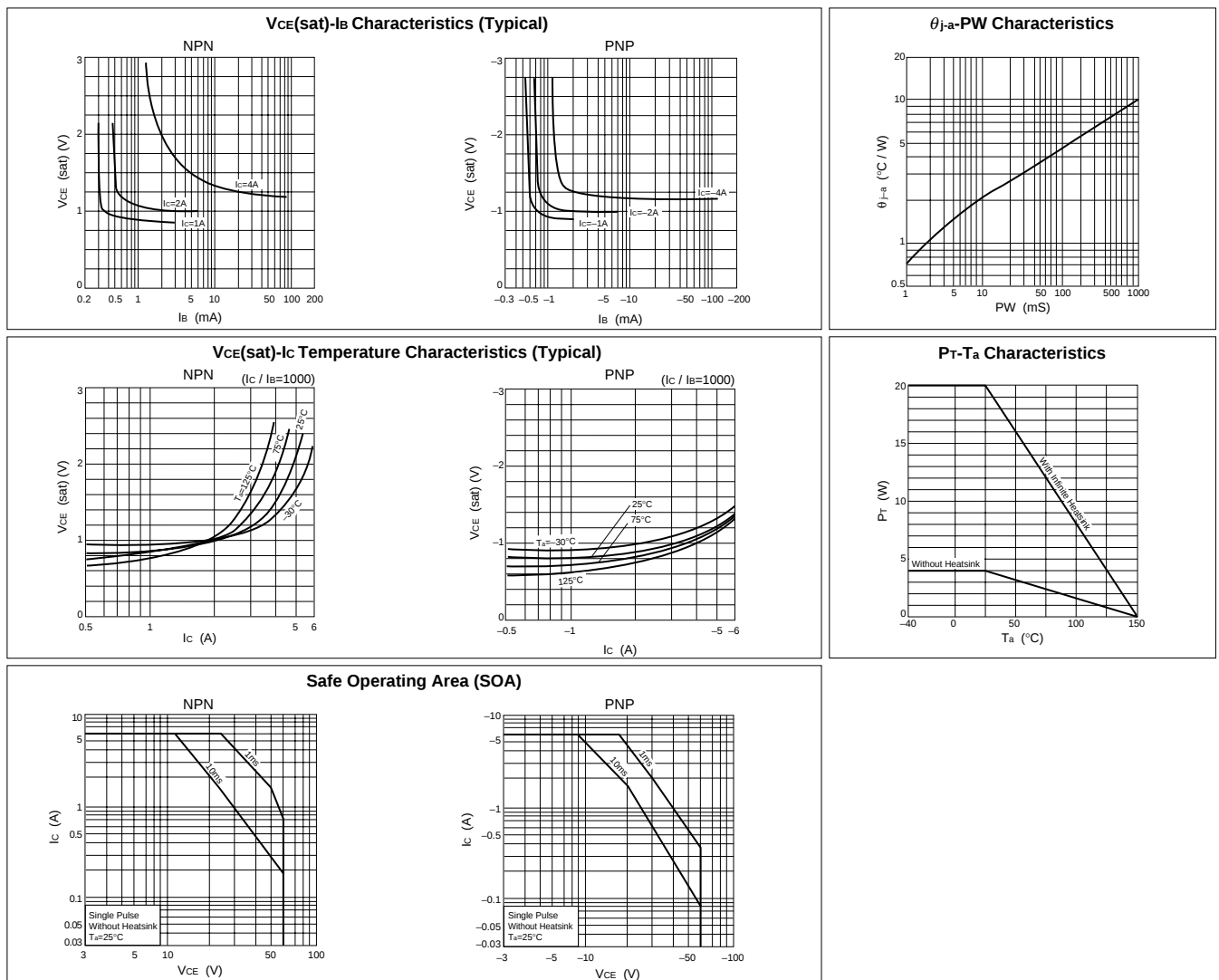


Electrical characteristics

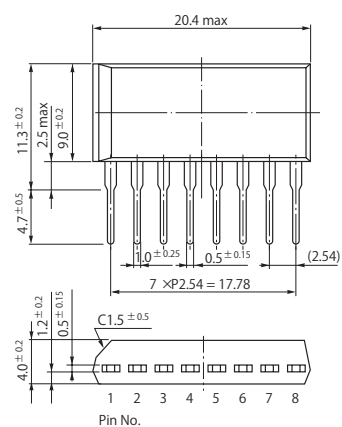
($T_a=25^\circ\text{C}$)

Symbol	NPN					PNP				
	Specification			Unit	Conditions	Specification			Unit	Conditions
	min	typ	max			min	typ	max		
I_{CBO}			10	μA	$V_{CB}=60\text{V}$			-10	μA	$V_{CB}=-60\text{V}$
I_{EBO}			10	mA	$V_{EB}=6\text{V}$			-10	mA	$V_{EB}=-6\text{V}$
V_{CEO}	60			V	$I_C=10\text{mA}$	-60			V	$I_C=-20\text{mA}$
h_{FE}	2000	5000	12000		$V_{CE}=4\text{V}$, $I_C=3\text{A}$	2000	5000	12000		$V_{CE}=-4\text{V}$, $I_C=-3\text{A}$
$V_{CE(sat)}$			1.5	V	$I_C=3\text{A}$, $I_B=6\text{mA}$			-1.5	V	$I_C=-3\text{A}$, $I_B=-6\text{mA}$
$V_{BE(sat)}$			2.0	V				-2.0	V	
V_{FEC}			1.8	V	$I_{FEC}=1\text{A}$			-1.8	V	$I_{FEC}=-1\text{A}$
t_{on}		1.0		μs	$V_{CC}\div-30\text{V}$, $I_C=3\text{A}$, $I_{B1}=-I_{B2}=10\text{mA}$		0.4		μs	$V_{CC}\div-30\text{V}$, $I_C=-3\text{A}$, $I_{B1}=-I_{B2}=-10\text{mA}$
t_{stg}		4.0		μs			0.8		μs	
t_r		1.5		μs			0.6		μs	
f_T		75		MHz	$V_{CE}=12\text{V}$, $I_E=-0.1\text{A}$		200		MHz	$V_{CE}=-12\text{V}$, $I_E=0.2\text{A}$
C_{ob}		50		pF	$V_{CB}=10\text{V}$, $f=1\text{MHz}$		75		pF	$V_{CB}=-10\text{V}$, $f=1\text{MHz}$

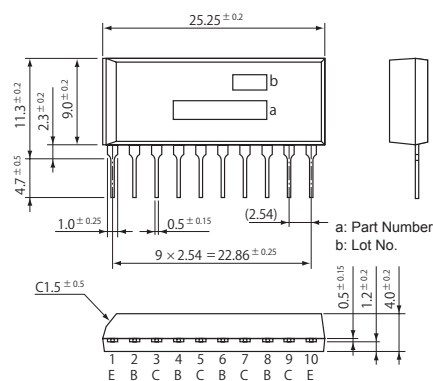
Characteristic curves



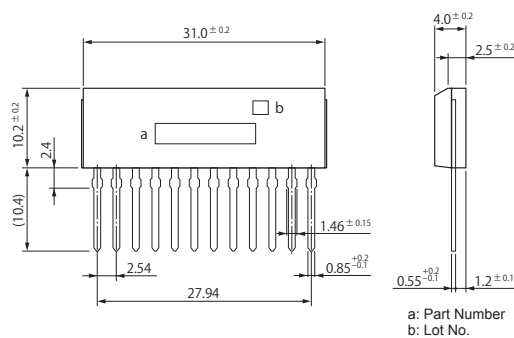
• SIP 8 (STA8Pin)



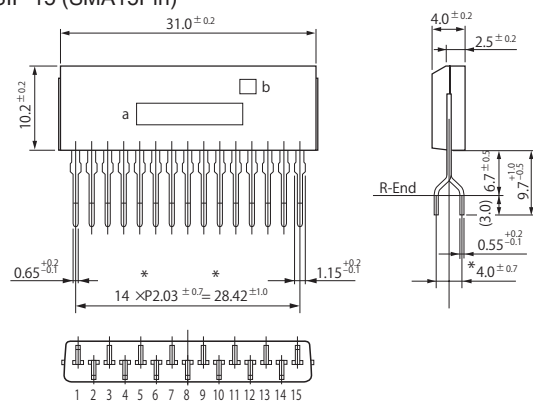
• SIP 10 (STA10Pin)



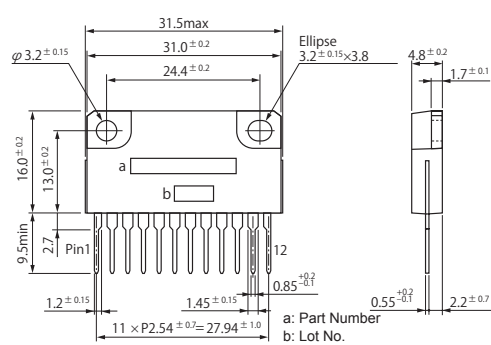
• SIP 12 (SMA12Pin)



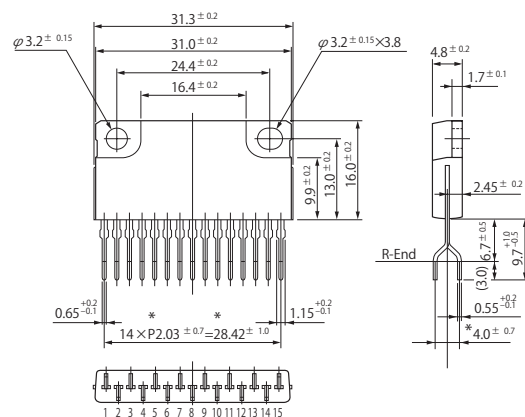
• SIP 15 (SMA15Pin)



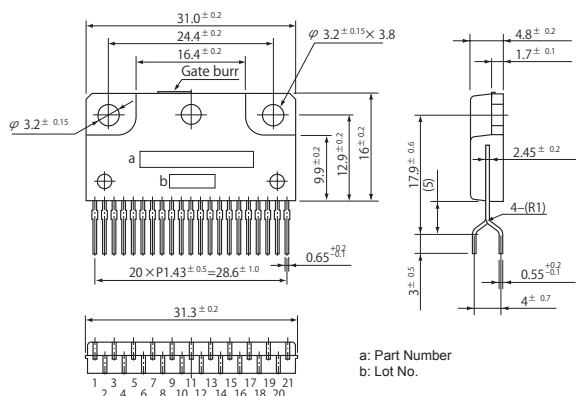
• SIP 12 with Fin (SLA12Pin)



• SIP 15 with Fin (SLA15Pin)



• SIP 21 with Fin (SLA21Pin)



(Unit:mm)