

Absolute maximum ratings

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

Symbol	Ratings	Unit
V_{CBO}	-60	V
V_{CEO}	-60	V
V_{EBO}	-6	V
I_C	-3	A
I_{CP}	-6 (PW \leq 1ms, Du \leq 50%)	A
I_B	-0.5	A
I_F	-6 (PW \leq 0.5ms, Du \leq 25%)	A
I_{FSM}	-8 (PW \leq 10ms, Single pulse)	A
V_R	100	V
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	$^\circ\text{C}$

Electrical characteristics

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

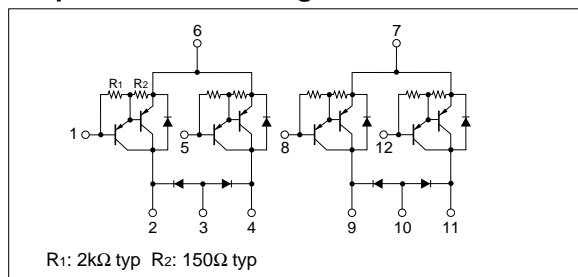
Symbol	Specification			Unit	Conditions
	min	typ	max		
I_{CBO}			-10	μA	$V_{CB}=-60\text{V}$
I_{EBO}			-10	mA	$V_{EB}=-6\text{V}$
V_{CEO}	-60			V	$I_C=-10\text{mA}$
h_{FE}	2000	5000	12000		$V_{CE}=-4\text{V}$, $I_C=-2\text{A}$
$V_{CE(sat)}$			-1.5	V	$I_C=-2\text{A}$, $I_B=-4\text{mA}$
$V_{BE(sat)}$			-2.0	V	

Diode for flyback voltage absorption

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

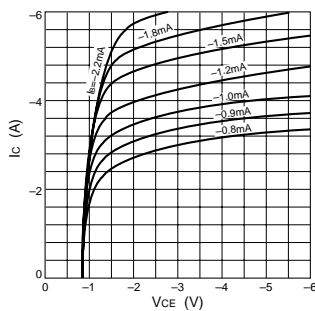
Symbol	Specification			Unit	Conditions
	min	typ	max		
V_R	100			V	$I_R=10\mu\text{A}$
V_F			1.2	V	$I_F=1\text{A}$
I_R			10	μA	$V_R=100\text{V}$
t_{rr}		100		ns	$I_F=\pm 100\text{mA}$

Equivalent circuit diagram

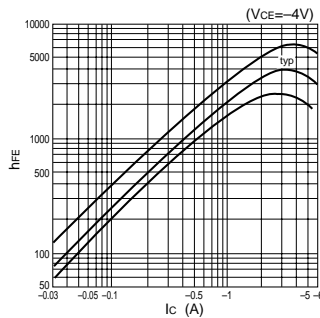


Characteristic curves

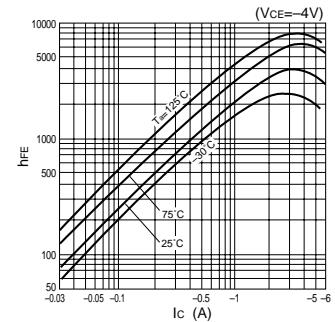
I_C - V_{CE} Characteristics (Typical)



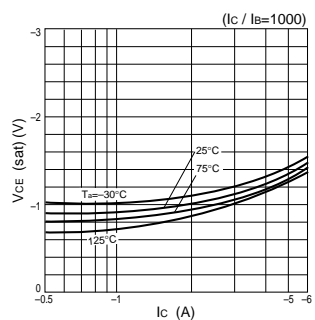
h_{FE} - I_C Characteristics (Typical)



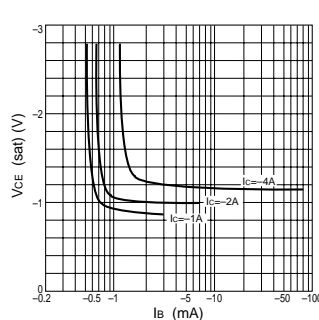
h_{FE} - I_C Temperature Characteristics (Typical)



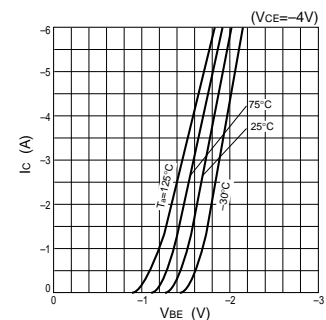
$V_{CE(sat)}$ - I_C Temperature Characteristics (Typical)



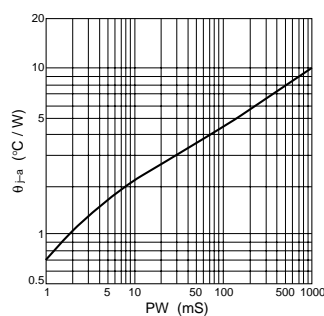
$V_{CE(sat)}$ - I_B Characteristics (Typical)



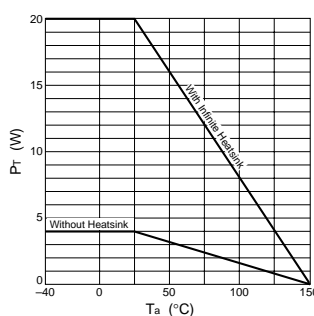
I_C - V_{BE} Temperature Characteristics (Typical)



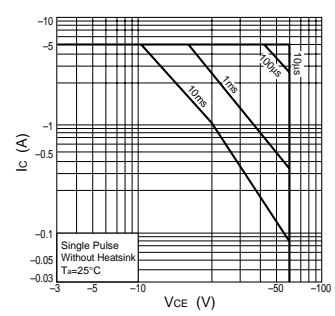
θ_{j-a} -PW Characteristics



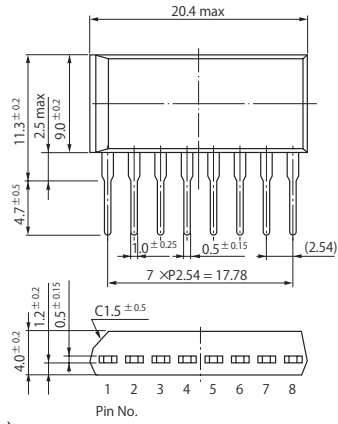
P_T - T_a Characteristics



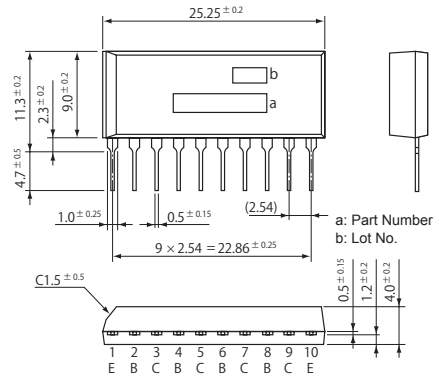
Safe Operating Area (SOA)



• SIP 8 (STA8Pin)



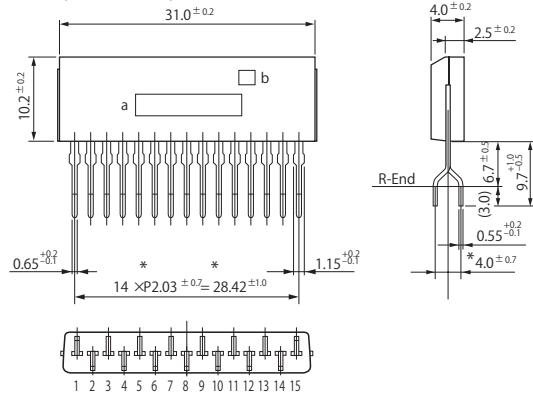
• SIP 10 (STA10Pin)



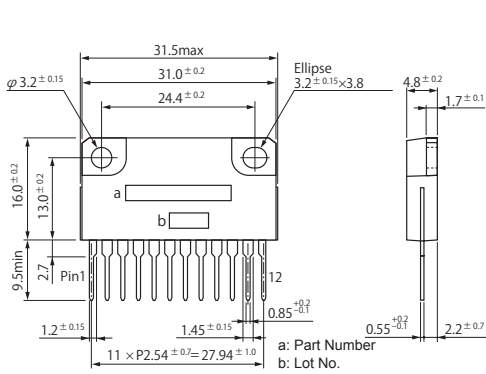
• SIP 12 (SMA12Pin)



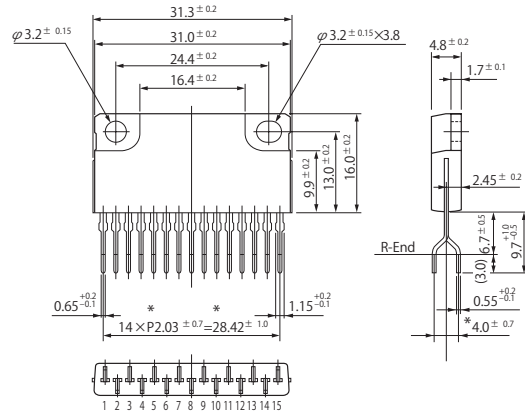
• SIP 15 (SMA15Pin)



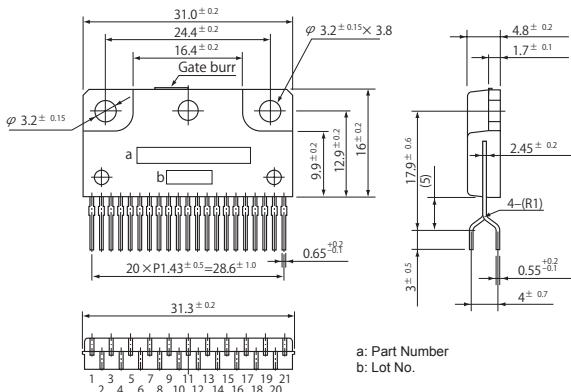
• SIP 12 with Fin (SLA12Pin)



• SIP 15 with Fin (SLA15Pin)



• SIP 21 with Fin (SLA21Pin)



(Unit:mm)