

Absolute maximum ratings

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

Symbol	Ratings	Unit
V_{CBO}	-100	V
V_{CEO}	-100	V
V_{EBO}	-6	V
I_c	-5	A
I_{CP}	-8 (PW \leq 1ms, $D_u\leq$ 50%)	A
I_B	-0.5	A
I_F	-5 (PW \leq 0.5ms, $D_u\leq$ 25%)	A
I_{FSM}	-8 (PW \leq 10ms, single)	A
V_R	120	V
P_T	5 ($T_a=25^\circ\text{C}$)	W
	25 ($T_c=25^\circ$)	
V_{ISO}	1000 (Between fin and lead pin, AC)	V_{rms}
T_j	150	$^\circ\text{C}$
T_{stg}	-40 to +150	$^\circ\text{C}$
θ_{j-c}	5	$^\circ\text{C/W}$

Electrical characteristics

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

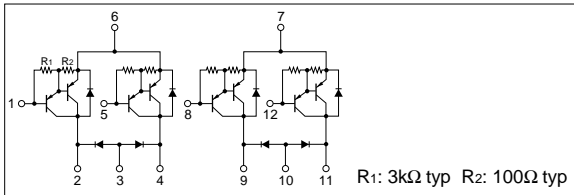
Symbol	Specification			Unit	Conditions
	min	typ	max		
I_{CBO}			-10	μA	$V_{CB}=-100\text{V}$
I_{EBO}			-10	mA	$V_{EB}=-6\text{V}$
V_{CEO}	-100			V	$I_c=-10\text{mA}$
h_{FE}	2000	5000	15000		$V_{CE}=-2\text{V}$, $I_c=-3\text{A}$
$V_{CE(sat)}$		-1.0	-1.5	V	$I_c=-3\text{A}$, $I_B=-6\text{mA}$
$V_{BE(sat)}$		-1.6	-2.0	V	

Diode for flyback voltage absorption

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

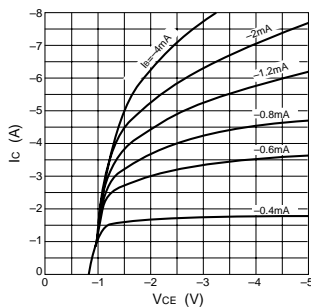
Symbol	Specification			Unit	Conditions
	min	typ	max		
V_R	120			V	$I_R=10\mu\text{A}$
V_F			1.2	V	$I_F=1\text{A}$
I_R			10	μA	$V_R=120\text{V}$
t_{rr}		100		ns	$I_F=\pm 100\text{mA}$

Equivalent circuit diagram

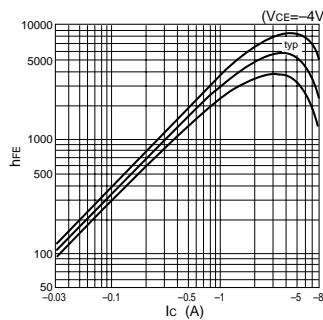


Characteristic curves

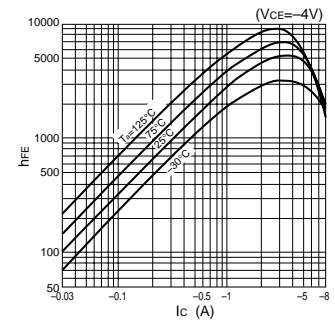
I_c - V_{CE} Characteristics (Typical)



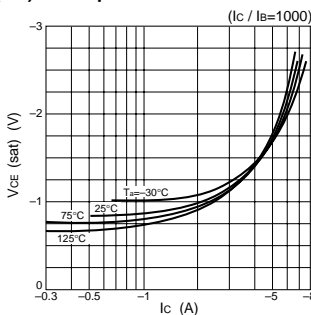
h_{FE} - I_c Characteristics (Typical)



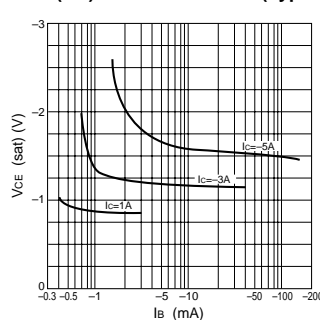
h_{FE} - I_c Temperature Characteristics (Typical)



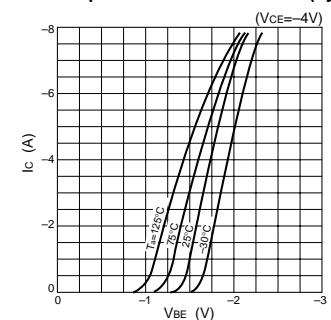
$V_{CE(sat)}$ - I_c Temperature Characteristics (Typical)



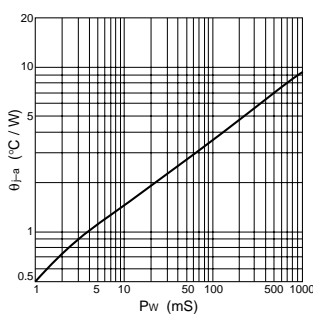
$V_{CE(sat)}$ - I_B Characteristics (Typical)



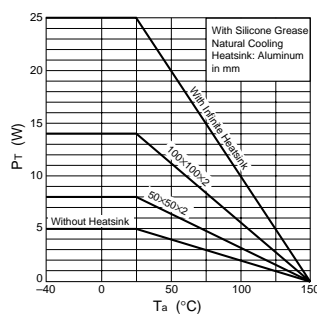
I_c - V_{BE} Temperature Characteristics (Typical)



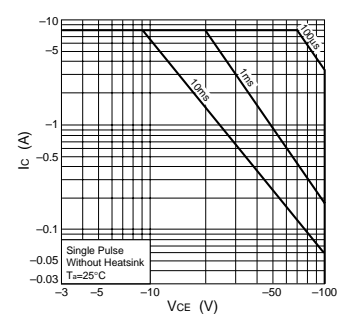
θ_{j-a} -PW Characteristics



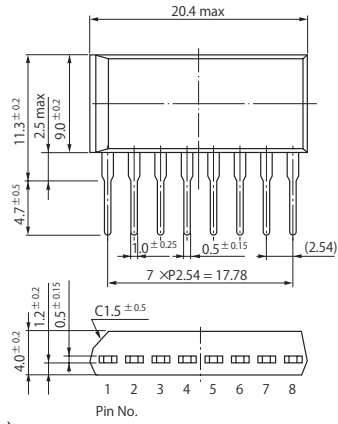
P_T - T_a Characteristics



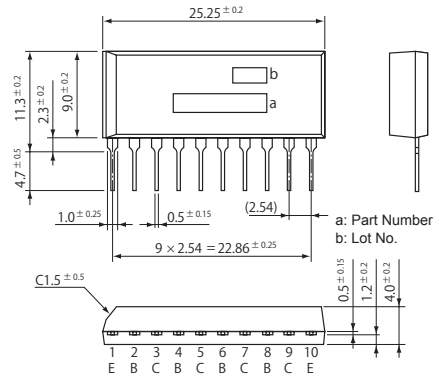
Safe Operating Area (SOA)



• SIP 8 (STA8Pin)



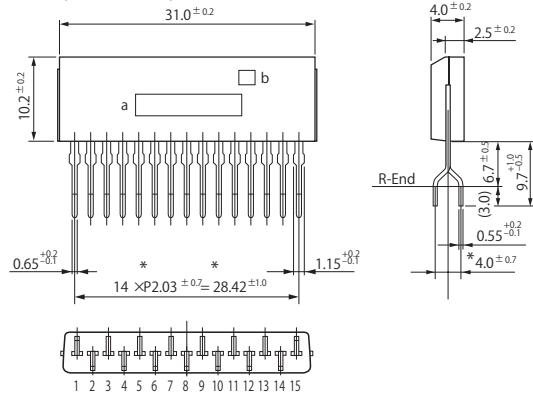
• SIP 10 (STA10Pin)



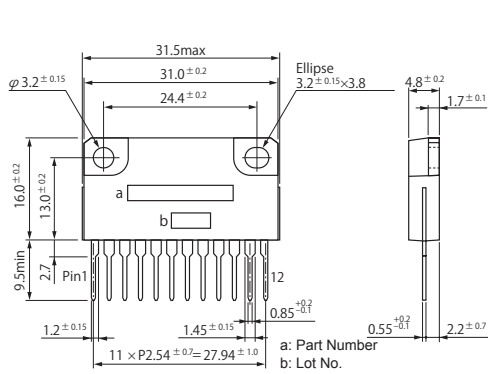
• SIP 12 (SMA12Pin)



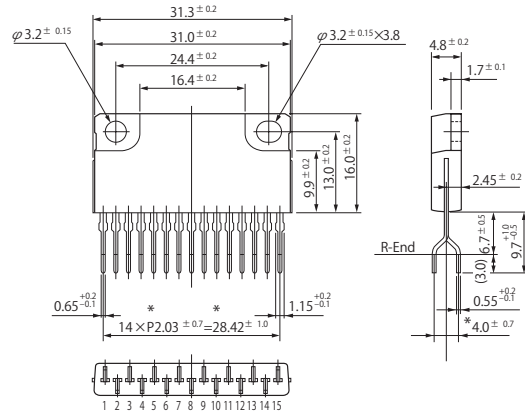
• SIP 15 (SMA15Pin)



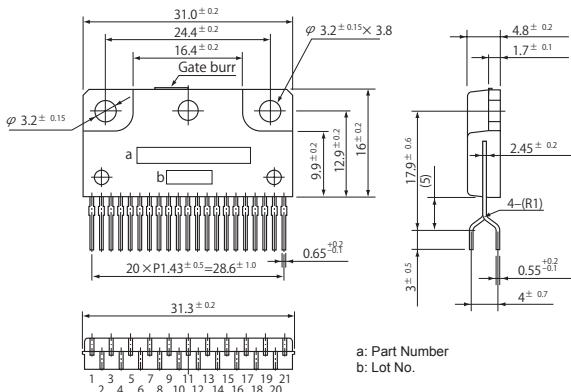
• SIP 12 with Fin (SLA12Pin)



• SIP 15 with Fin (SLA15Pin)



• SIP 21 with Fin (SLA21Pin)



(Unit:mm)