

### Absolute maximum ratings

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

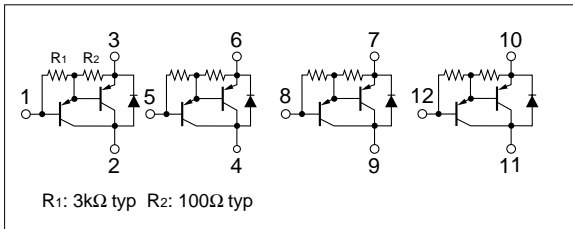
Symbol	Ratings	Unit
$V_{CBO}$	-100	V
$V_{CEO}$	-100	V
$V_{EBO}$	-6	V
$I_C$	-5	A
$I_{CP}$	-8 (PW $\leq$ 1ms, Du $\leq$ 50%)	A
$I_B$	-0.5	A
$P_T$	5 ( $T_a=25^\circ\text{C}$ )	W
	25 ( $T_c=25^\circ\text{C}$ )	
$V_{ISO}$	1000 (Between fin and lead pin, AC)	V <sub>rms</sub>
$T_j$	150	$^\circ\text{C}$
$T_{stg}$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

### Electrical characteristics

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

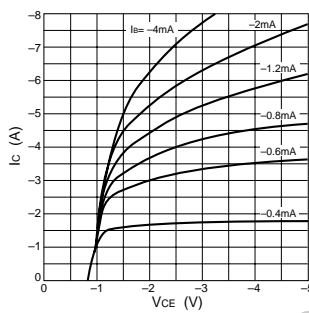
Symbol	Specification			Unit	Conditions
	min	typ	max		
$I_{CBO}$			-10	$\mu\text{A}$	$V_{CB}=-100\text{V}$
$I_{EBO}$			-10	mA	$V_{EB}=-6\text{V}$
$V_{CEO}$	-100			V	$I_C=-10\text{mA}$
$h_{FE}$	1000	5000	15000		$V_{CE}=-2\text{V}$ , $I_C=-3\text{A}$
$V_{CE(sat)}$		-1.0	-1.5	V	$I_C=-3\text{A}$ , $I_B=-6\text{mA}$
$V_{BE(sat)}$		-1.6	-2.0	V	

### Equivalent circuit diagram

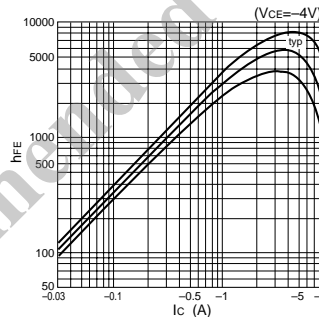


### Characteristic curves

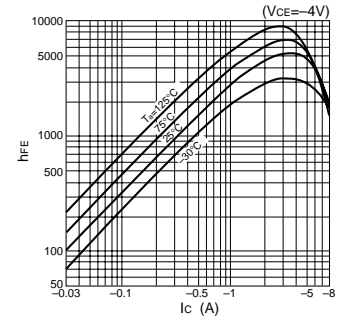
$I_C$ - $V_{CE}$  Characteristics (Typical)



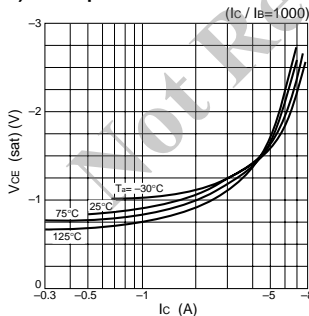
$h_{FE}$ - $I_C$  Characteristics (Typical)



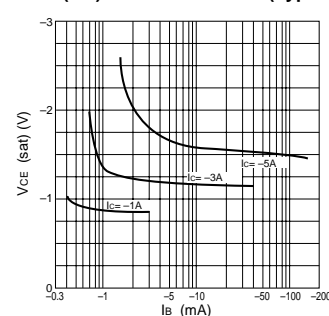
$h_{FE}$ - $I_C$  Temperature Characteristics (Typical)



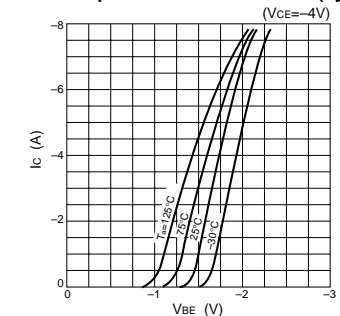
$V_{CE(sat)}$ - $I_C$  Temperature Characteristics (Typical)



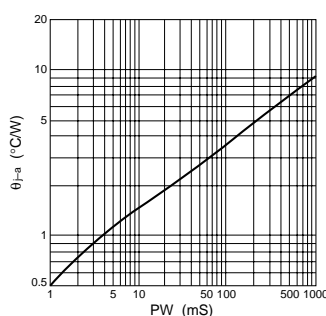
$V_{CE(sat)}$ - $I_B$  Characteristics (Typical)



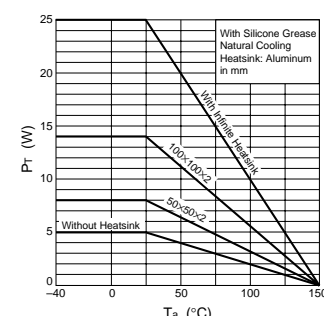
$I_C$ - $V_{BE}$  Temperature Characteristics (Typical)



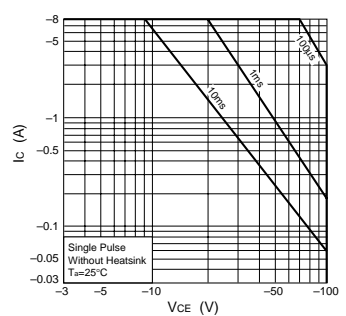
$\theta_{j-a}$ -PW Characteristics



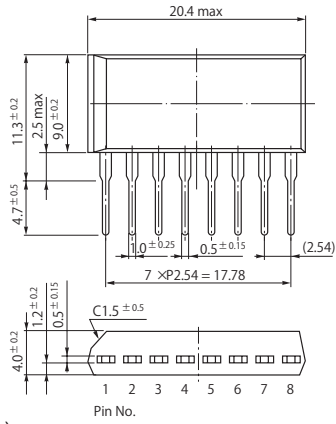
$P_T$ - $T_a$  Characteristics



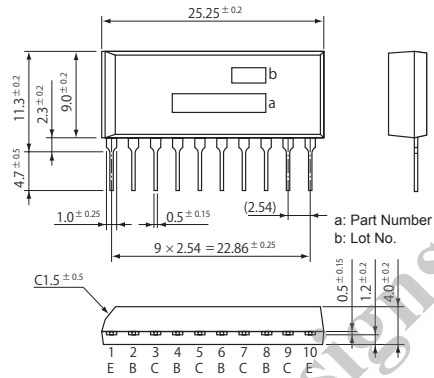
Safe Operating Area (SOA)



• SIP 8 (STA8Pin)



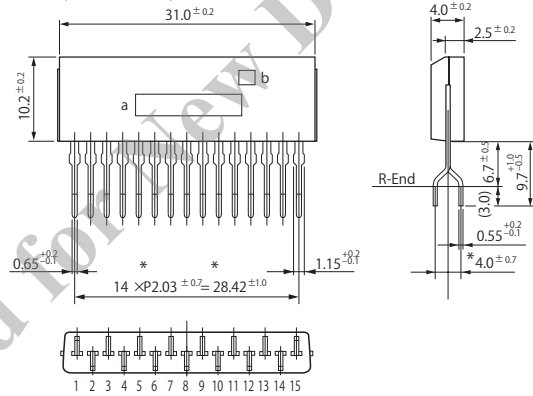
• SIP 10 (STA10Pin)



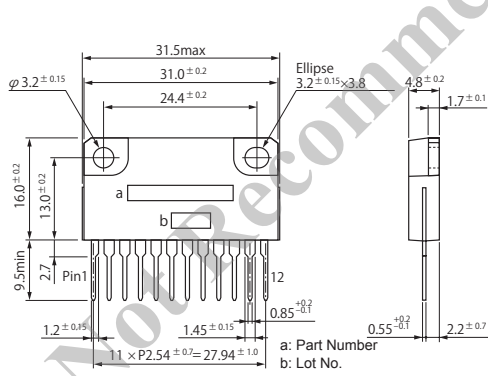
• SIP 12 (SMA12Pin)



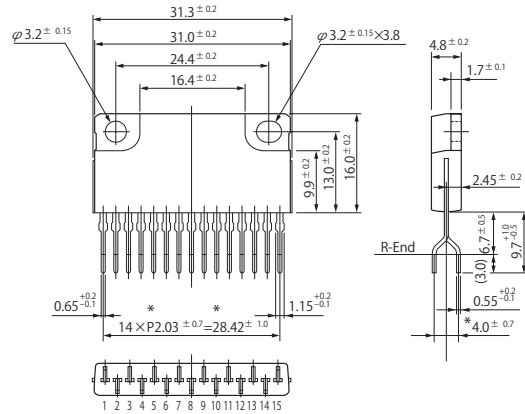
• SIP 15 (SMA15Pin)



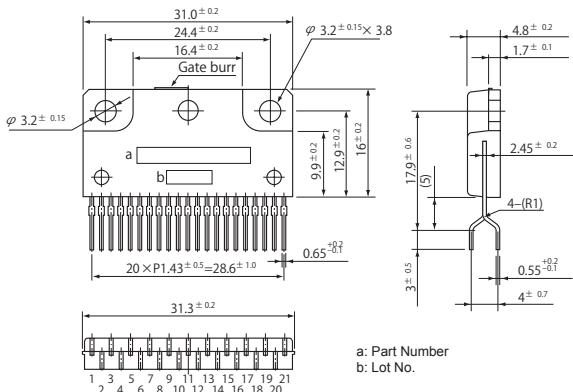
• SIP 12 with Fin (SLA12Pin)



• SIP 15 with Fin (SLA15Pin)



• SIP 21 with Fin (SLA21Pin)



(Unit:mm)