

### Absolute maximum ratings

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

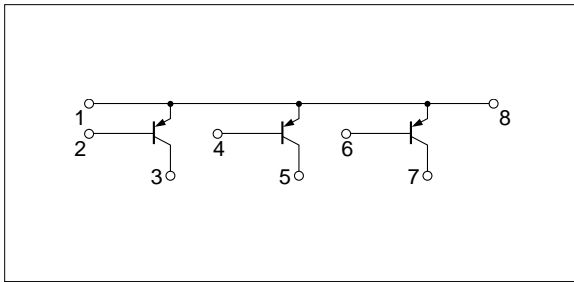
Symbol	Ratings	Unit
$V_{CB0}$	-50	V
$V_{CE0}$	-50	V
$V_{EB0}$	-5	V
$I_c$	-3	A
$I_{cP}$	-5 (PW $\leq$ 1ms, Du $\leq$ 50%)	A
$I_B$	-1	A
$P_T$	3 ( $T_a=25^\circ\text{C}$ )	W
	15 ( $T_c=25^\circ\text{C}$ )	
$T_j$	150	$^\circ\text{C}$
$T_{stg}$	-40 to +150	$^\circ\text{C}$

### Electrical characteristics

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

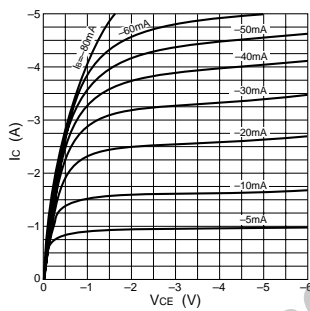
Symbol	Specification			Unit	Conditions
	min	typ	max		
$I_{CB0}$			-10	$\mu\text{A}$	$V_{CB}=-50\text{V}$
$I_{EB0}$			-10	$\mu\text{A}$	$V_{EB}=-8\text{V}$
$V_{CE0}$	-50			V	$I_c=-25\text{mA}$
$h_{FE}$	100		350		$V_{CE}=-4\text{V}$ , $I_c=-1\text{A}$
$V_{CE(sat)}$			-1.0	V	$I_c=-2\text{A}$ , $I_B=-40\text{mA}$
$V_{BE(sat)}$			-1.5	V	

### Equivalent circuit diagram

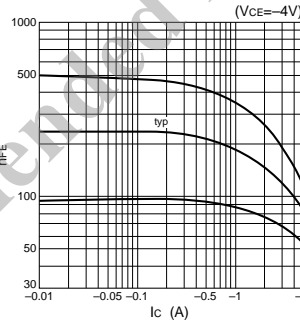


### Characteristic curves

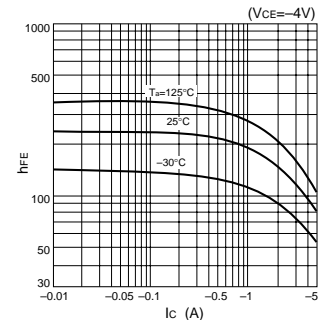
$I_c$ - $V_{CE}$  Characteristics (Typical)



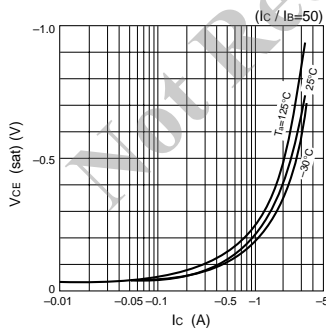
$h_{FE}$ - $I_c$  Characteristics (Typical)



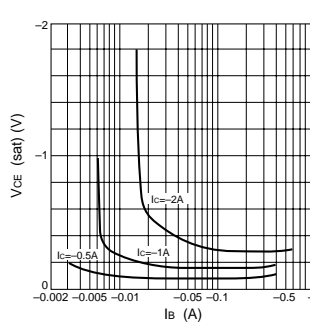
$h_{FE}$ - $I_c$  Temperature Characteristics (Typical)



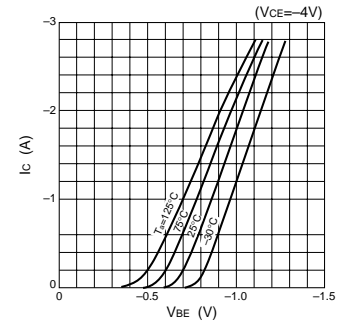
$V_{CE(sat)}$ - $I_c$  Temperature Characteristics (Typical)



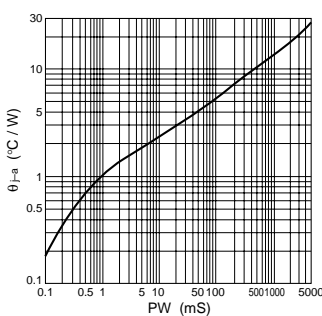
$V_{CE(sat)}$ - $I_B$  Characteristics (Typical)



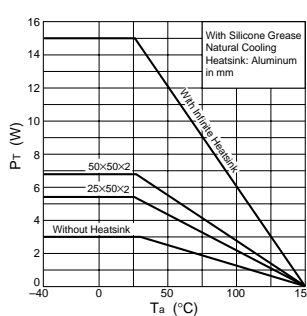
$I_c$ - $V_{BE}$  Temperature Characteristics (Typical)



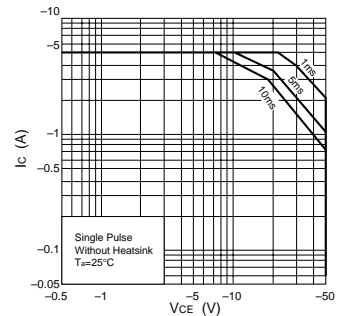
$\theta_{j-a}$ -PW Characteristics



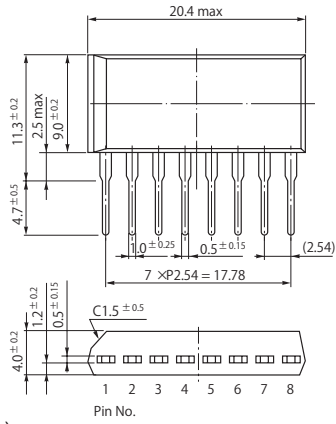
$P_T$ - $T_a$  Characteristics



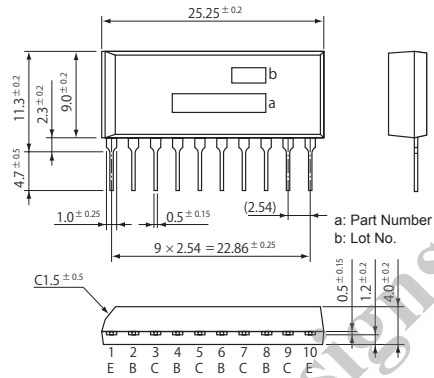
Safe Operating Area (SOA)



• SIP 8 (STA8Pin)



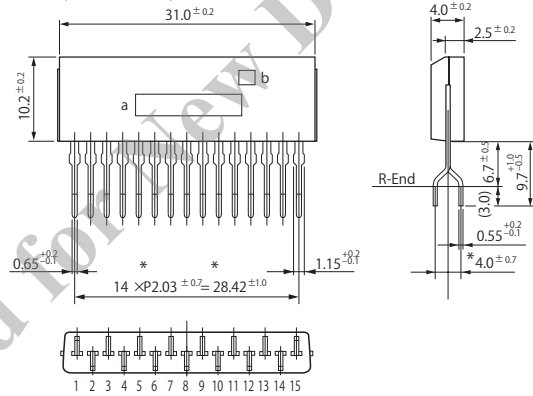
• SIP 10 (STA10Pin)



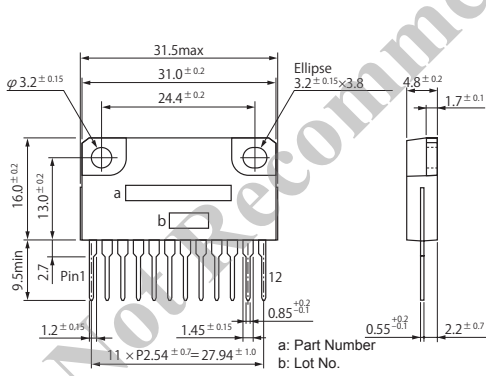
• SIP 12 (SMA12Pin)



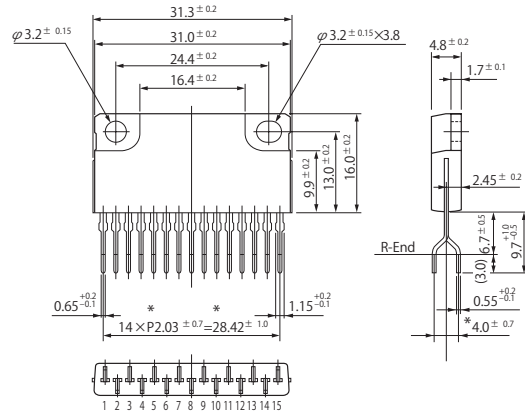
• SIP 15 (SMA15Pin)



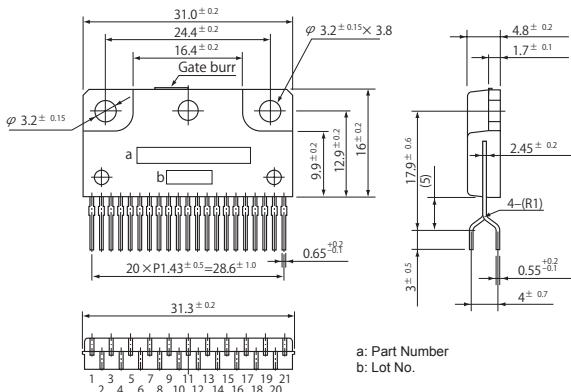
• SIP 12 with Fin (SLA12Pin)



• SIP 15 with Fin (SLA15Pin)



• SIP 21 with Fin (SLA21Pin)



(Unit:mm)