SLA4061

NPN Darlington
With built-in flywheel diode

External dimensions Ⓐ ··· SLA (12-pin)

Absolute maximum ratings (Ta=25°C)

Symbol	Ratings	Unit
V_{CBO}	120	V
V_{CEO}	120	V
V_{EBO}	6	V
I_C	5	A
I_{CP}	8 (PW≤1ms, Du≤50%)	A
I_B	0.5	A
I_F	5 (PW≤0.5ms, Du≤25%)	A
I_{FSM}	8 (PW≤10ms, single)	A
V_R	120	V
P_T	5 (Ta=25°C)	W
	25 (Tc=25°C)	
V_{ISO}	1000 (Between fin and lead pin, AC)	Vrms
T_j	150	°C
T_{stg}	–40 to +150	°C
θ_{j-c}	5	°C/W

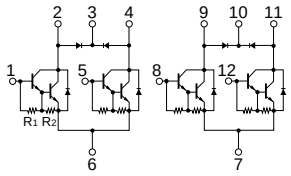
Electrical characteristics (Ta=25°C)

Symbol	Specification min	typ	max	Unit	Conditions
I_{CBO}			10	μA	V_{CB}=120V
I_{EBO}			10	mA	V_{EB}=6V
V_{CEO}	120			V	I_C=25mA
h_{FE}	2000	5000	15000		V_{CE}=2V, I_C=3A
V_{CE}(sat)		1.0	1.5	V	I_C=3A, I_B=3mA
V_{BE}(sat)		1.6	2.0	V	
ton		0.5		μs	V_{CC}≒30V,
tstg		5.5		μs	I_C=3A,
tf		1.5		μs	I_{B1}=–I_{B2}=3mA

●Diode for flyback voltage absorption (Ta=25°C)

Symbol	Specification min	typ	max	Unit	Conditions
V_R	120			V	I_R=10μA
V_F			1.2	V	I_F=1A
I_R			10	μA	V_R=120V
trr		100		ns	I_F=±100mA

■Equivalent circuit diagram

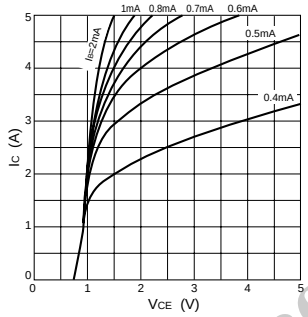


R1: 2.5kΩ typ R2: 200Ω typ

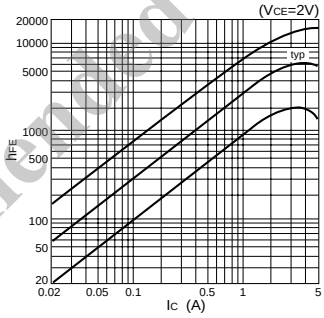
Not Recommended for New Designs

Characteristic curves

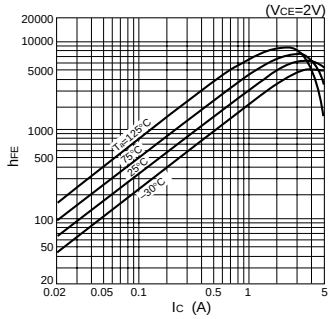
IC-VCE Characteristics (Typical)



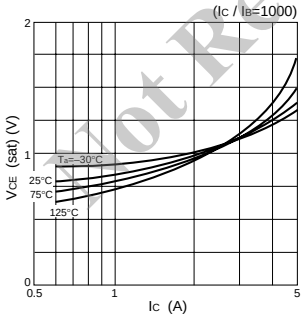
hFE-IC Characteristics (Typical)



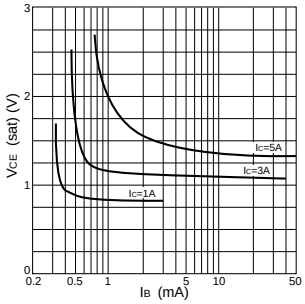
hFE-IC Temperature Characteristics (Typical)



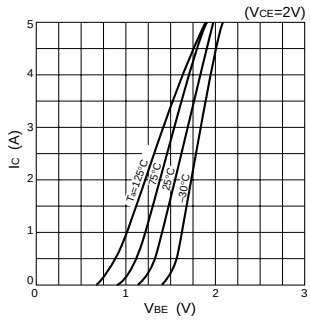
VCE(sat)-IC Temperature Characteristics (Typical)



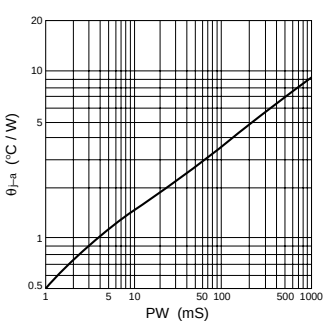
VCE(sat)-IB Characteristics (Typical)



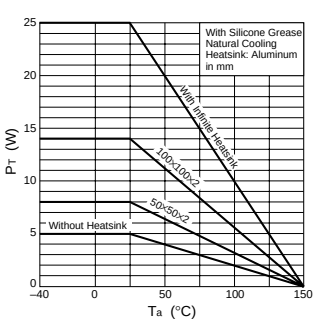
IC-VBE Temperature Characteristics (Typical)



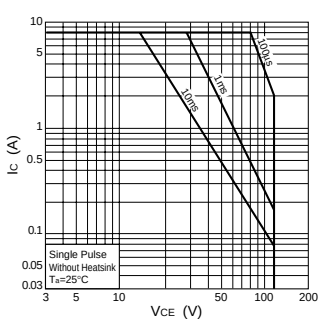
θj-a-PW Characteristics



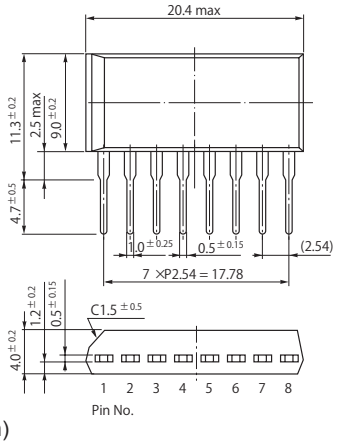
PT-Ta Characteristics



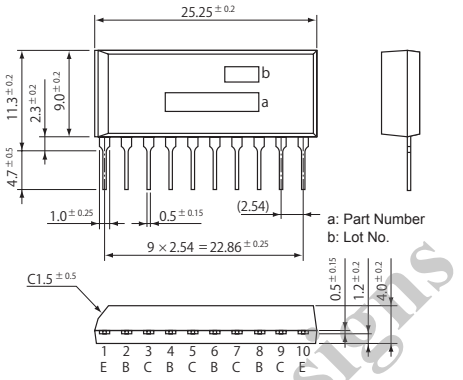
Safe Operating Area (SOA)



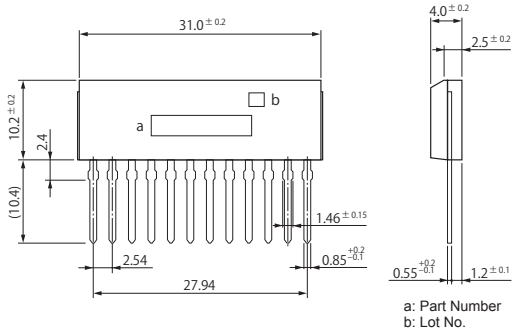
• SIP 8 (STA8Pin)



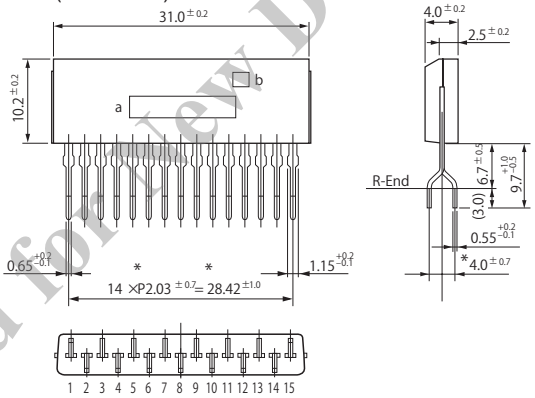
• SIP 10 (STA10Pin)



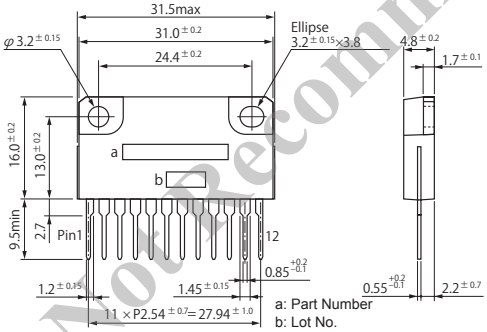
• SIP 12 (SMA12Pin)



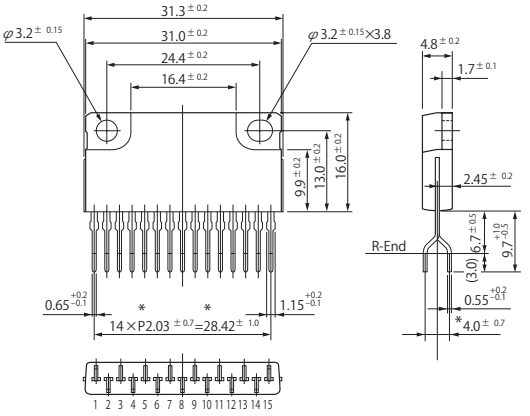
• SIP 15 (SMA15Pin)



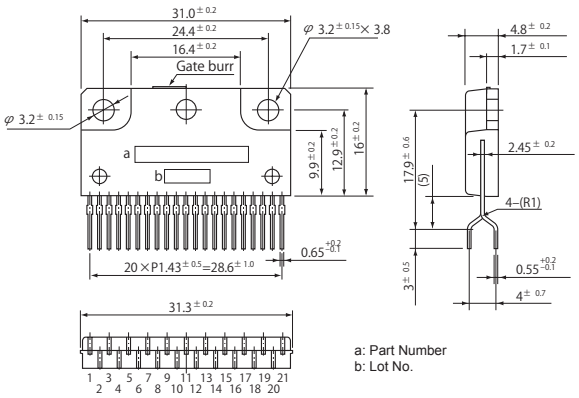
• SIP 12 with Fin (SLA12Pin)



• SIP 15 with Fin (SLA15Pin)



• SIP 21 with Fin (SLA21Pin)



(Unit:mm)

Not Recommended for New Designs