STA406A

NPN Darlington

With built-in avalanche diode

External dimensions Ⓓ ··· STA (10-pin)

Absolute maximum ratings

(Ta=25°C)

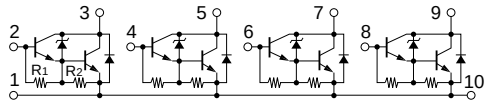
Symbol	Ratings	Unit
V_{CBO}	60±10	V
V_{CEO}	60±10	V
V_{EBO}	6	V
I_C	6	A
I_B	1	A
P_T	4 (Ta=25°C)	W
	20 (Tc=25°C)	
T_j	150	°C
T_{stg}	–40 to +150	°C

Electrical characteristics

(Ta=25°C)

Symbol	Specification			Unit	Conditions
	min	typ	max		
I_{CBO}			10	μA	V_{CB}=50V
I_{EBO}			10	mA	V_{EB}=6V
V_{CEO}	50	60	70	V	I_C=50mA
h_{FE}	2000		15000		V_{CE}=2V, I_C=3A
V_{CE}(sat)			1.5	V	I_C=3A, I_B=10mA
V_{BE}(sat)			2.0	V	
$E_{S/B}$	200			mJ	V_{CC}≒20V, L=10mH, I_C=6.4A

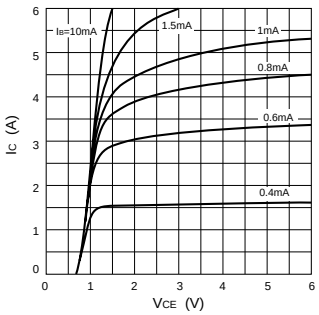
■Equivalent circuit diagram



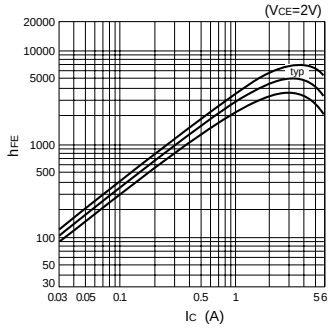
R1: 3kΩ typ R2: 150Ω typ

Characteristic curves

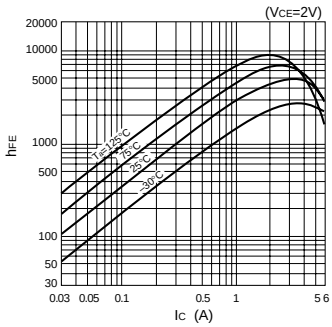
I_C-V_{CE} Characteristics (Typical)



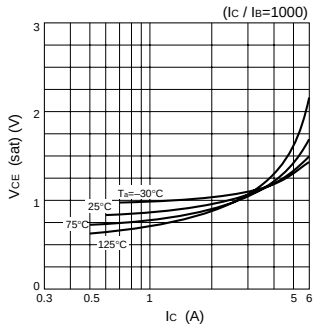
h_{FE}-I_C Characteristics (Typical)



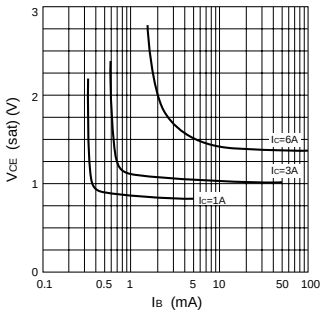
h_{FE}-I_C Temperature Characteristics (Typical)



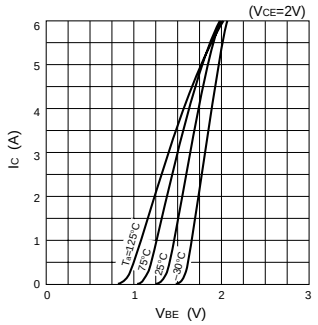
V_{CE}(sat)-I_C Temperature Characteristics (Typical)



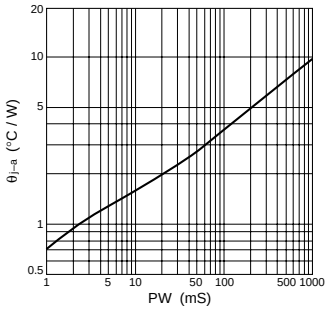
V_{CE}(sat)-I_B Characteristics (Typical)



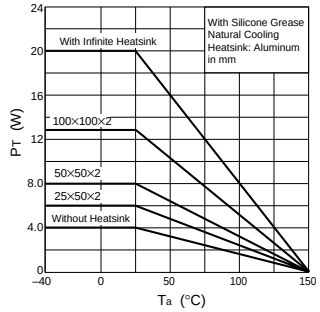
I_C-V_{BE} Temperature Characteristics (Typical)



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



P_T-T_a Characteristics



Safe Operating Area (SOA)

