STA412A

NPN

General purpose

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

Absolute maximum ratings

(Ta=25°C)

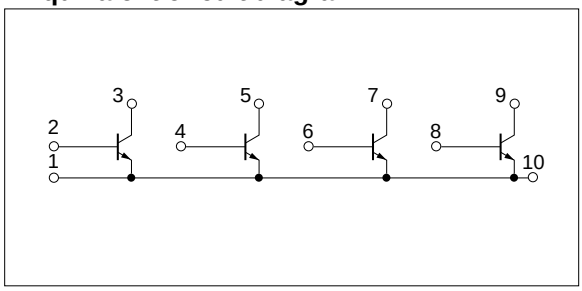
Symbol	Ratings	Unit
V_{CBO}	60	V
V_{CEO}	60	V
V_{EBO}	6	V
I_C	3	A
I_{CP}	6 (PW≤10ms, Du≤50%)	A
P_T	4 (Ta=25°C)	W
	20 (Tc=25°C)	
T_j	150	°C
T_{stg}	–40 to +150	°C

Electrical characteristics

(Ta=25°C)

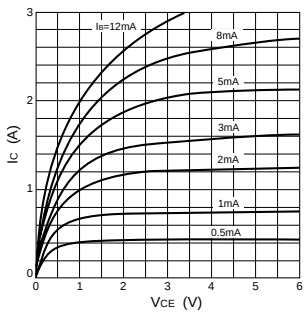
Symbol	Specification			Unit	Conditions
	min	typ	max		
I_{CBO}			100	μA	V_{CB}=60V
I_{EBO}			100	μA	V_{EB}=6V
V_{CEO}	60			V	I_C=25mA
h_{FE}	300				V_{CE}=4V, I_C=0.5A
V_{CE}(sat)			1.0	V	I_C=1A, I_B=10mA
ton		0.8		μs	V_{CC}≒20V,
tstg		3.0		μs	I_C=1A,
tf		1.2		μs	I_{B1}=15mA, I_{B2}=–30mA

■Equivalent circuit diagram

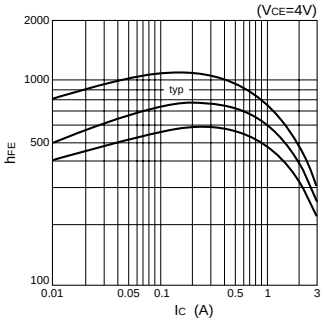


Characteristic curves

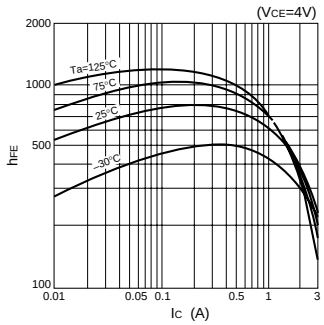
I_C-V_{CE} Characteristics (Typical)



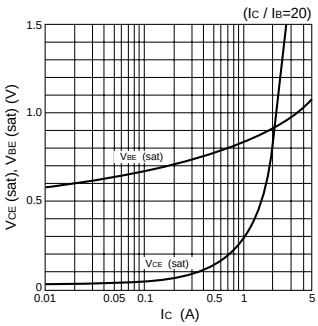
h_{FE}-I_C Characteristics (Typical)



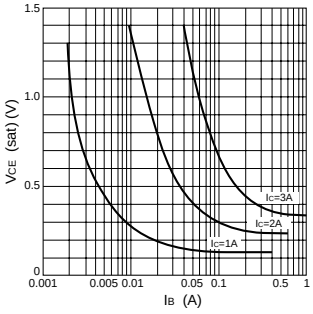
h_{FE}-I_C Temperature Characteristics (Typical)



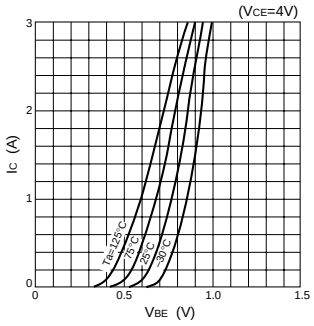
V_{CE}(sat), V_{BE}(sat)-I_C Characteristics (Typical)



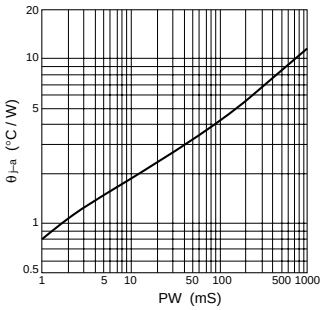
V_{CE}(sat)-I_B Characteristics (Typical)



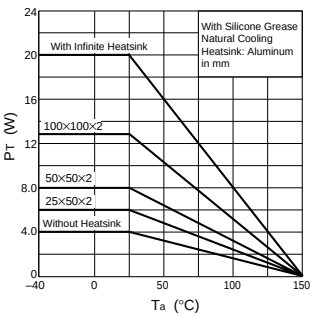
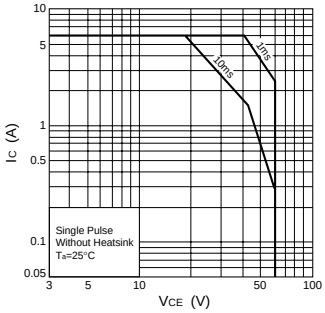
I_C-V_{BE} Temperature Characteristics (Typical)



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



P_T-T_a Characteristics



Safe Operating Area (SOA)