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For any questions, you can email us directly:

sales@integrated-circuit.com

STA412A

NPN
 General purpose

External dimensions STA (10-pin)

Absolute maximum ratings

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

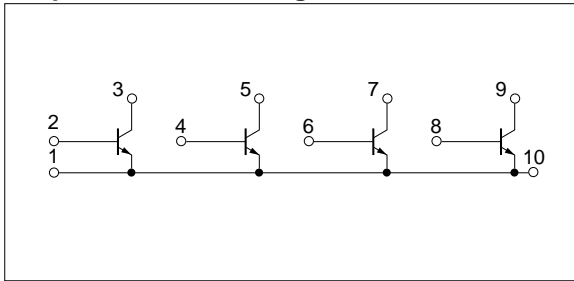
Symbol	Ratings	Unit
V_{CBO}	60	V
V_{CEO}	60	V
V_{EBO}	6	V
I_c	3	A
I_{CP}	6 ($PW \leq 10\text{ms}$, $D_u \leq 50\%$)	A
P_T	4 ($T_a=25^\circ\text{C}$)	W
	20 ($T_c=25^\circ\text{C}$)	
T_j	150	$^\circ\text{C}$
T_{stg}	-40 to +150	$^\circ\text{C}$

Electrical characteristics

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

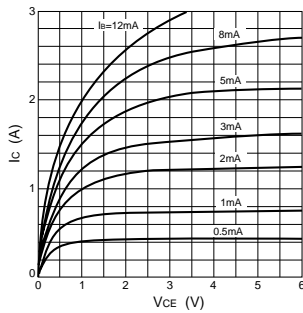
Symbol	Specification			Unit	Conditions
	min	typ	max		
I_{CBO}			100	μA	$V_{CB}=60\text{V}$
I_{EBO}			100	μA	$V_{EB}=6\text{V}$
V_{CEO}	60			V	$I_c=25\text{mA}$
h_{FE}	300				$V_{CE}=4\text{V}$, $I_c=0.5\text{A}$
$V_{CE(sat)}$			1.0	V	$I_c=1\text{A}$, $I_B=10\text{mA}$
t_{on}		0.8		μs	$V_{CC} \approx 20\text{V}$, $I_c=1\text{A}$, $I_{B1}=15\text{mA}$, $I_{B2}=-30\text{mA}$
t_{stg}		3.0		μs	
t_f		1.2		μs	

Equivalent circuit diagram

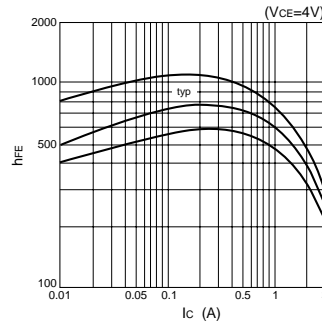


Characteristic curves

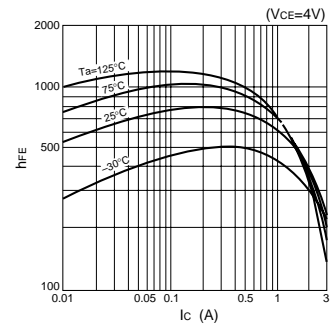
I_c - V_{CE} Characteristics (Typical)



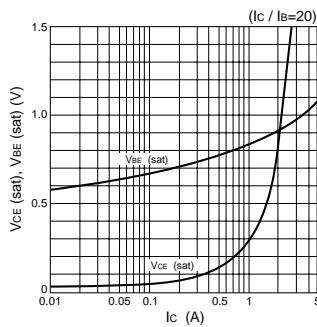
h_{FE} - I_c Characteristics (Typical)



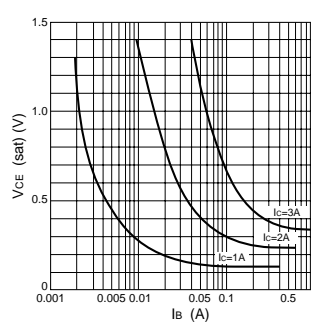
h_{FE} - I_c Temperature Characteristics (Typical)



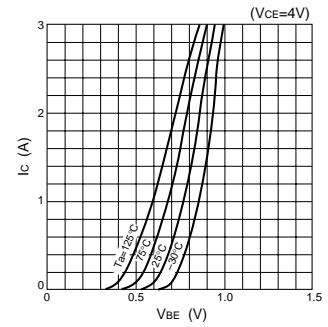
$V_{CE(sat)}$, $V_{BE(sat)}$ - I_c Characteristics (Typical)



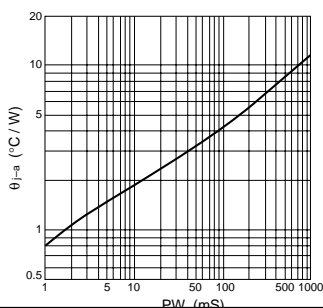
$V_{CE(sat)}$ - I_B Characteristics (Typical)



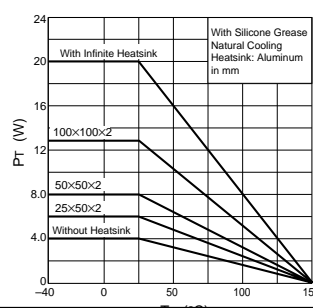
I_c - V_{BE} Temperature Characteristics (Typical)



θ_{j-a} - PW Characteristics



P_T - T_a Characteristics



Safe Operating Area (SOA)

