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STA473A

NPN Darlington
 General purpose

External dimensions STA (10-pin)

Absolute maximum ratings

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

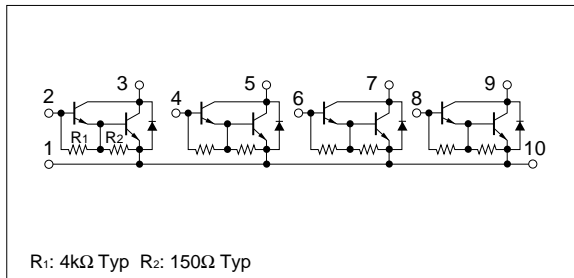
Symbol	Ratings	Unit
V_{CBO}	120	V
V_{CEO}	100	V
V_{EBO}	6	V
I_C	2	A
I_{CP}	4 (PW \leq 1ms, Du \leq 25%)	A
I_B	0.5	A
P_T	4 ($T_a=25^\circ\text{C}$)	W
	20 ($T_c=25^\circ\text{C}$)	
T_j	150	$^\circ\text{C}$
T_{stg}	-40 to +150	$^\circ\text{C}$

Electrical characteristics

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

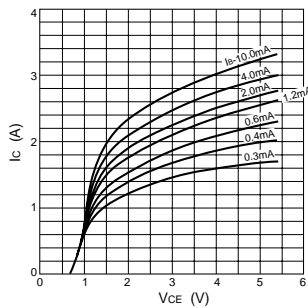
Symbol	Specification			Unit	Conditions
	min	typ	max		
I_{CBO}			10	μA	$V_{CB}=120\text{V}$
I_{EBO}			5	mA	$V_{EB}=6\text{V}$
V_{CEO}	100			V	$I_C=10\text{mA}$
h_{FE}	2000	5000	12000		$V_{CE}=4\text{V}$, $I_C=1\text{A}$
$V_{CE(sat)}$		1.1	1.5	V	$I_C=1\text{A}$, $I_B=2\text{mA}$
$V_{BE(sat)}$		1.8	2.2	V	
V_{FEC}		1.3	1.8	V	$I_{FEC}=1\text{A}$
t_{on}		0.5		μs	$V_{CC}\doteq 30\text{V}$, $I_C=1\text{A}$,
t_{stg}		4.5		μs	
t_f		1.2		μs	$I_{B1}=-I_{B2}=2\text{mA}$
f_T		50		MHz	$V_{CE}=12\text{V}$, $I_E=-0.1\text{A}$
C_{ob}		20		pF	$V_{CB}=10\text{V}$, $f=1\text{MHz}$

Equivalent circuit diagram

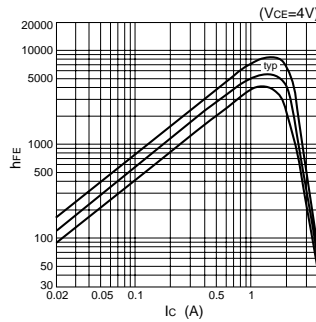


Characteristic curves

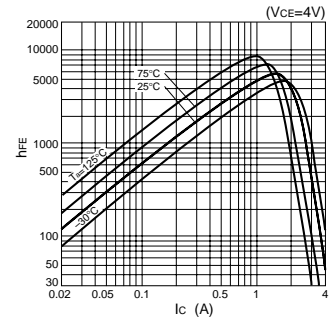
I_C - V_{CE} Characteristics (Typical)



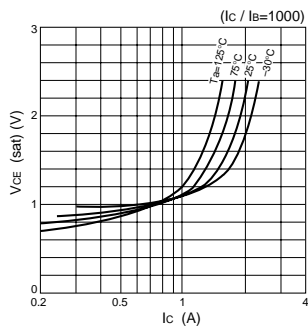
h_{FE} - I_C Characteristics (Typical)



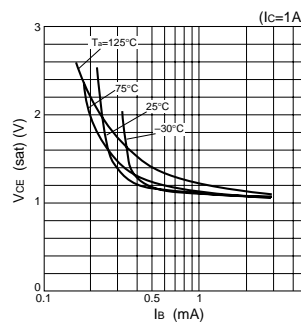
h_{FE} - I_C Temperature Characteristics (Typical)



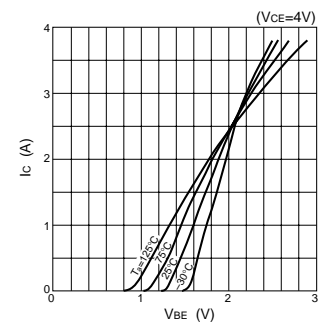
$V_{CE(sat)}$ - I_C Temperature Characteristics (Typical)



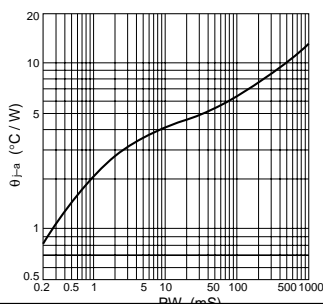
$V_{CE(sat)}$ - I_B Temperature Characteristics (Typical)



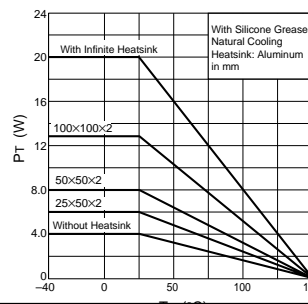
I_C - V_{BE} Temperature Characteristics (Typical)



θ_{j-a} -PW Characteristics



P_T - T_a Characteristics



Safe Operating Area (SOA)

