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STA475A

NPN Darlington

With built-in avalanche diode

External dimensions  STA (10-pin)

Absolute maximum ratings

(Ta=25°C)

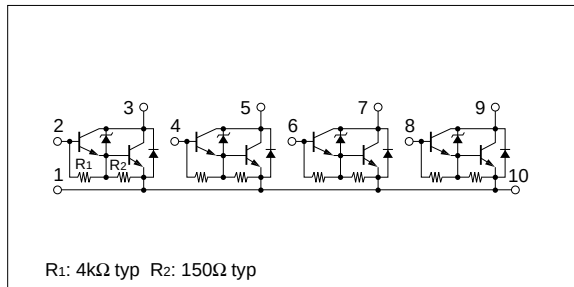
Symbol	Ratings	Unit
V _{CB0}	100±15	V
V _{CEO}	100±15	V
V _{EBO}	6	V
I _C	2	A
I _{CP}	4 (PW≤1ms, Du≤25%)	A
I _B	0.5	A
P _T	4 (Ta=25°C) 20 (Tc=25°C)	W
T _j	150	°C
T _{stg}	-40 to +150	°C

Electrical characteristics

(Ta=25°C)

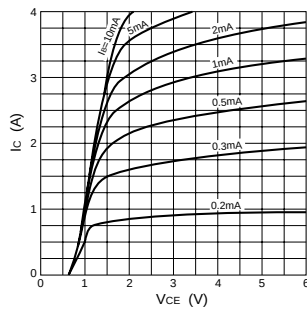
Symbol	Specification			Unit	Conditions
	min	typ	max		
I _{CB0}			10	μA	V _{CB} =85V
I _{EBO}			5	mA	V _{EB} =6V
V _{CEO}	85	100	115	V	I _C =10mA
h _{FE}	2000	5000	12000		V _{CE} =4V, I _C =1A
V _{CE(sat)}			1.5	V	I _C =1A, I _B =2mA
V _{BE(sat)}			2.2	V	
V _{FEC}			1.8	V	I _{FEC} =1A
ton		0.6		μs	V _{CC} ≐30V, I _C =1A, I _{B1} =-I _{B2} =2mA
tstg		3.0		μs	
tf		1.0		μs	

Equivalent circuit diagram

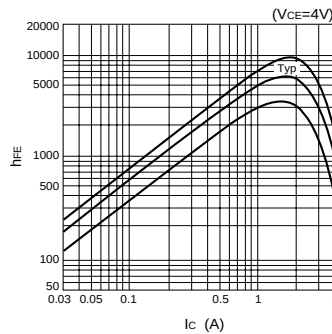


Characteristic curves

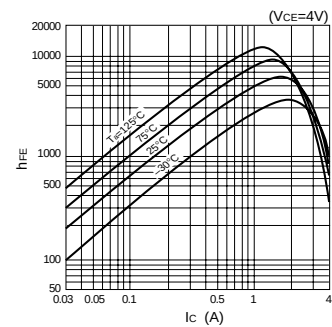
I_C-V_{CE} Characteristics (Typical)



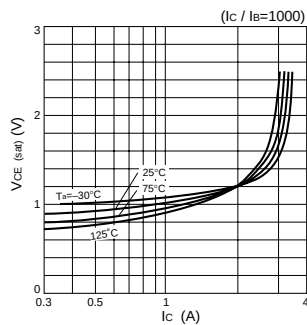
h_{FE}-I_C Characteristics (Typical)



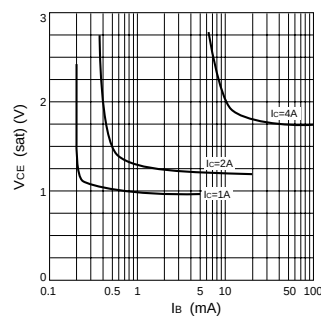
h_{FE}-I_C Temperature Characteristics (Typical)



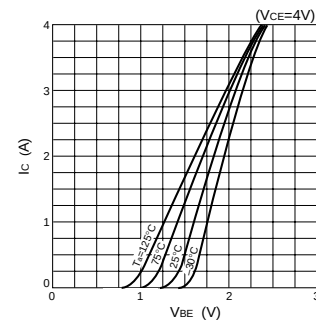
V_{CE(sat)}-I_C Temperature Characteristics (Typical)



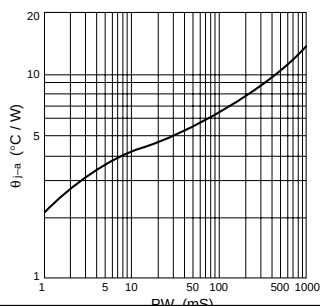
V_{CE(sat)}-I_B Characteristics (Typical)



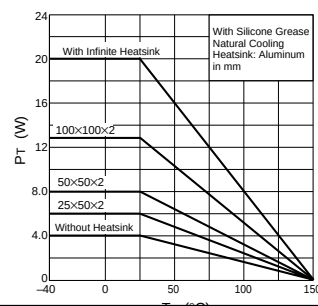
I_C-V_{BE} Temperature Characteristics (Typical)



θ_{JA}-P_W Characteristics



P_T-T_a Characteristics



Safe Operating Area (SOA)

