

STA301A

NPN Darlington

With built-in avalanche diode

External dimensions C...STA (8-pin)

Absolute maximum ratings

(Ta=25°C)

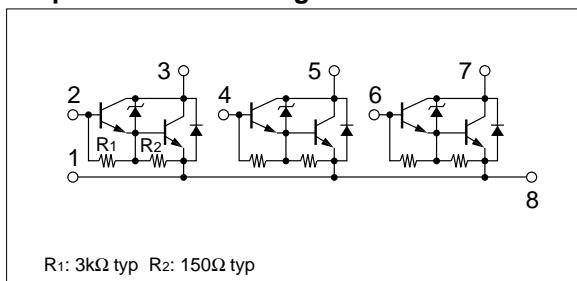
Symbol	Ratings	Unit
V _{CBO}	60±10	V
V _{CEO}	60±10	V
V _{EBO}	6	V
I _c	4	A
I _{CP}	8 (PW≤10ms, Du≤50%)	A
P _T	3 (Ta=25°C) 15 (Tc=25°C)	W
T _j	150	°C
T _{stg}	-40 to +150	°C

Electrical characteristics

(Ta=25°C)

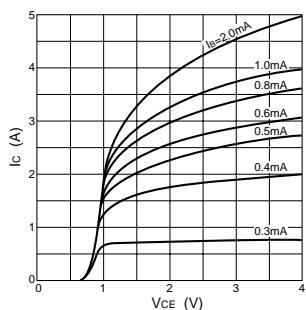
Symbol	Specification			Unit	Conditions
	min	typ	max		
I _{CB0}			100	μA	V _{CB} =50V
I _{EB0}			10	mA	V _{EB} =6V
V _{CEO}	50	60	70	V	I _c =10mA
h _{FE}	1000				V _{CE} =4V, I _c =3A
V _{CE(sat)}			2.0	V	I _c =3A, I _b =10mA
t _{on}		1.0		μs	V _{CC} =30V,
t _{stg}		4.0		μs	I _c =3A,
t _f		1.5		μs	I _{b1} =-I _{b2} =10mA

Equivalent circuit diagram

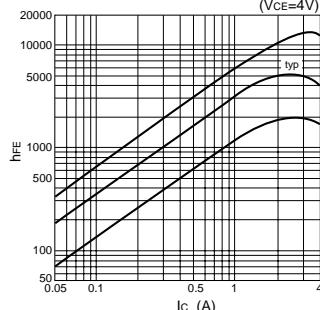


Characteristic curves

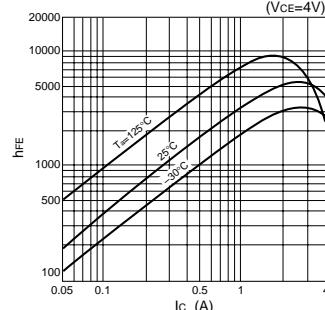
I_c-V_{CE} Characteristics (Typical)



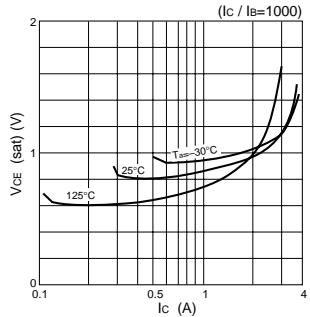
h_{FE}-I_c Characteristics (Typical)



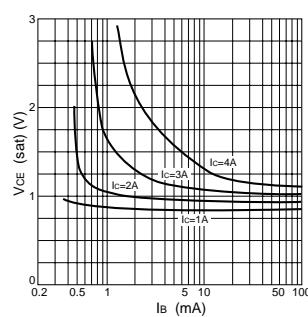
h_{FE}-I_c Temperature Characteristics (Typical)



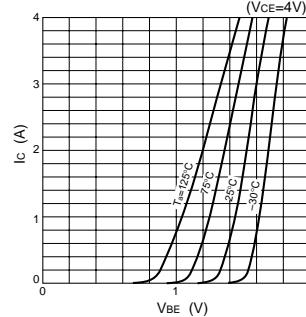
V_{CE(sat)}-I_c Temperature Characteristics (Typical)



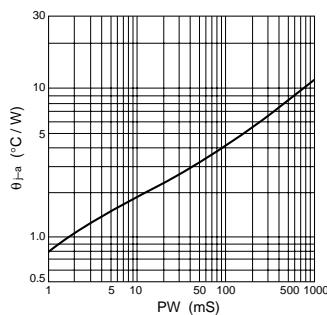
V_{CE(sat)}-I_b Characteristics (Typical)



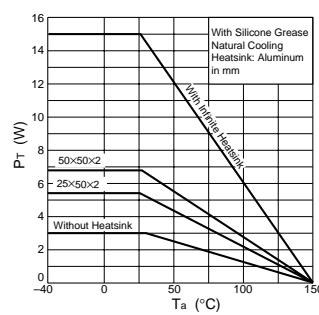
I_c-V_{BE} Temperature Characteristics (Typical)



θ_{ja}-PW Characteristics



P_T-Ta Characteristics



Safe Operating Area (SOA)

