

STA481A

NPN Darlington

With built-in avalanche diode

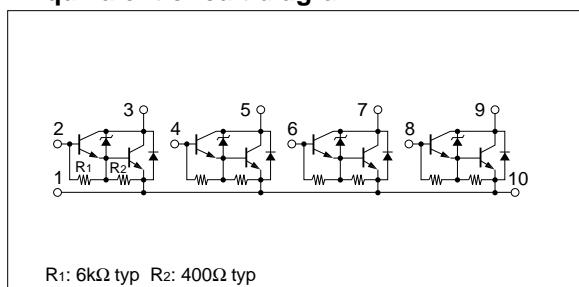
External dimensions (D) STA (10-pin)

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 | 1 | A |
| I _{CP} | 2.5 (PW≤1ms, Du≤25%) | A |
| I _B | 0.5 | A |
| P _T | 4 (Ta=25°C) 16 (Tc=25°C) | W |
| T _j | 150 | °C |
| T _{stg} | -40 to +150 | °C |

■ Equivalent circuit diagram



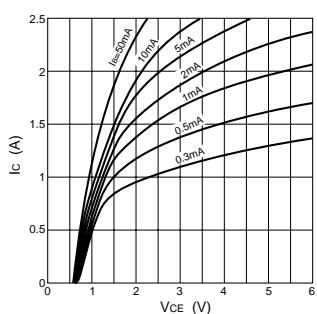
Electrical characteristics

(Ta=25°C)

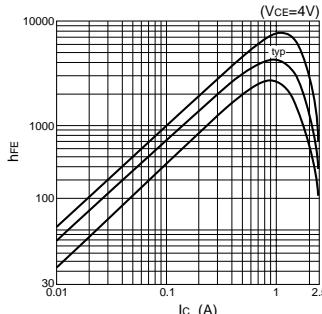
| Symbol | Specification | | | Unit | Conditions |
|----------------------|---------------|------|-------|------|---|
| | min | typ | max | | |
| I _{CBO} | | | 10 | μA | V _{CB} =50V |
| I _{EBO} | | | 3 | mA | V _{EB} =6V |
| V _{CEO} | 50 | 60 | 70 | V | I _c =1mA |
| h _{FE} | 2000 | 5000 | 10000 | | V _{CE} =4V, I _c =0.5A |
| V _{CE(sat)} | | 1.0 | 1.5 | V | I _c =0.5A, I _B =1mA |
| V _{BE(sat)} | | 1.6 | 2.2 | V | |
| V _{FEC} | | 1.4 | 1.8 | V | I _{FE} =0.5A |
| t _{on} | | 0.5 | | μs | V _{cc} =30V, |
| t _{stg} | | 2.5 | | μs | I _c =0.5A, |
| t _f | | 1.0 | | μs | I _{B1} =I _{B2} =1mA |
| f _r | | 50 | | MHz | V _{CE} =12V, I _c =-0.1A |
| C _{ob} | | 14 | | pF | V _{CB} =10V, f=1MHz |

Characteristic curves

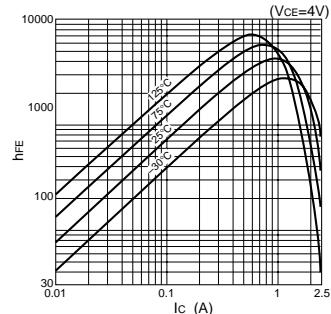
I_c-V_{CE} Characteristics (Typical)



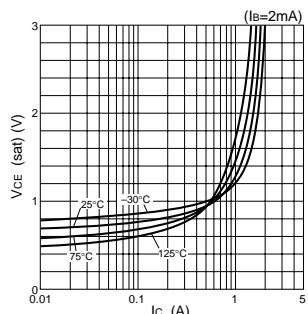
h_{FE}-I_c Characteristics (Typical)



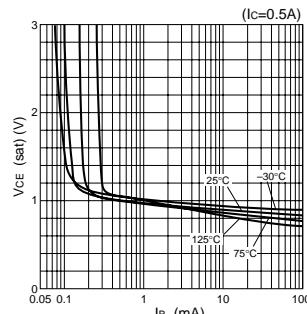
h_{FE}-I_c Temperature Characteristics (Typical)



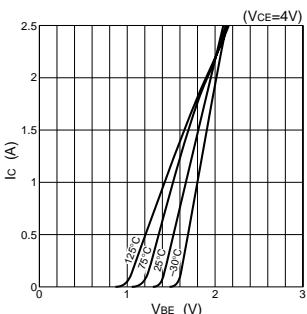
V_{ce(sat)}-I_c Temperature Characteristics (Typical)



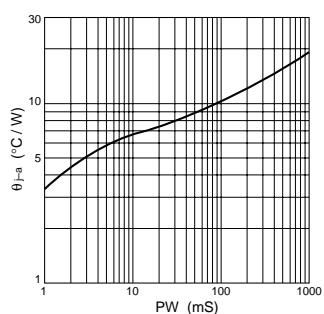
V_{ce(sat)}-I_b Temperature Characteristics (Typical)



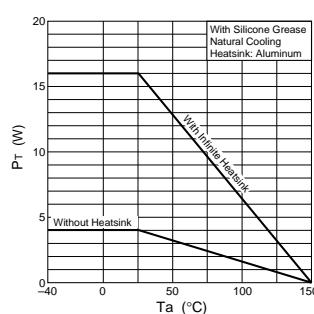
I_c-V_{be} Temperature Characteristics (Typical)



θ_{j-a}-PW Characteristics



P_T-Ta Characteristics



Safe Operating Area (SOA)

