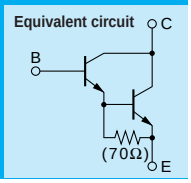
# Darlington 2SD2493




**Silicon NPN Triple Diffused Planar Transistor** (Complement to type 2SB1624)

**Application :** Audio, Series Regulator and General Purpose

### Absolute maximum ratings (Ta=25°C)

| Symbol | 2SD2493 | Unit |
|---|---|---|
| $V_{CBO}$ | 110 | V |
| $V_{CEO}$ | 110 | V |
| $V_{EBO}$ | 5 | V |
| $I_C$ | 6 | A |
| $I_B$ | 1 | A |
| $P_C$ | 60(Tc=25°C) | W |
| Tj | 150 | °C |
| Tstg | –55 to +150 | °C |

### Electrical Characteristics (Ta=25°C)

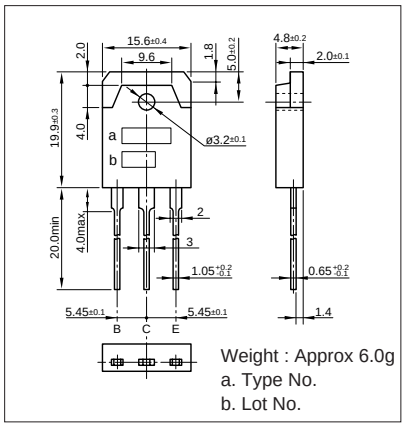
| Symbol | Conditions | 2SD2493 | Unit |
|---|---|---|---|
| $I_{CBO}$ | $V_{CB}$=110V | 100max | μA |
| $I_{EBO}$ | $V_{EB}$=5V | 100max | μA |
| $V_{(BR)CEO}$ | $I_C$=30mA | 110min | V |
| $h_{FE}$ | $V_{CE}$=4V, $I_C$=5A | 5000min* | |
| $V_{CE(sat)}$ | $I_C$=5A, $I_B$=5mA | 2.5max | V |
| $V_{BE(sat)}$ | $I_C$=5A, $I_B$=5mA | 3.0max | V |
| $f_T$ | $V_{CE}$=12V, $I_E$=–2A | 60typ | MHz |
| $C_{OB}$ | $V_{CB}$=10V, f=1MHz | 55typ | pF |

*$h_{FE}$ Rank $\bar{O}$(5000 to 12000), P(6500 to 20000), Y(15000 to 30000)

### Typical Switching Characteristics (Common Emitter)

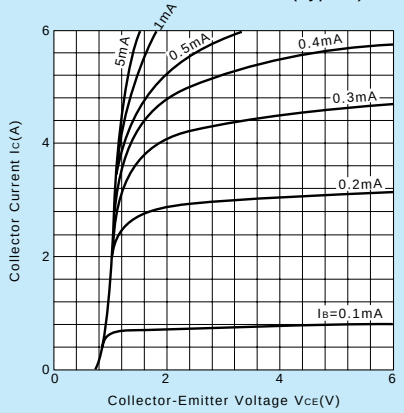
| $V_{CC}$ (V) | $R_L$ (Ω) | $I_C$ (A) | $V_{BB1}$ (V) | $V_{BB2}$ (V) | $I_{B1}$ (mA) | $I_{B2}$ (mA) | ton (μs) | tstg (μs) | tf (μs) |
|---|---|---|---|---|---|---|---|---|---|
| 30 | 6 | 5 | 10 | –5 | 5 | –5 | 0.8typ | 6.2typ | 1.1typ |

### External Dimensions MT-100(TO3P)

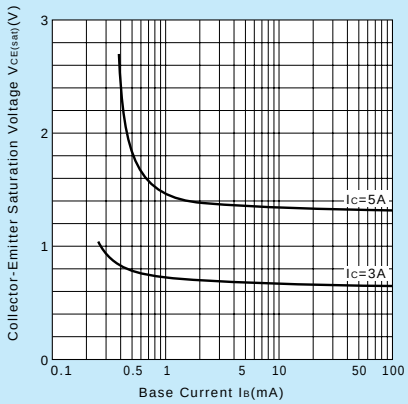



www.DataSheet4U.com

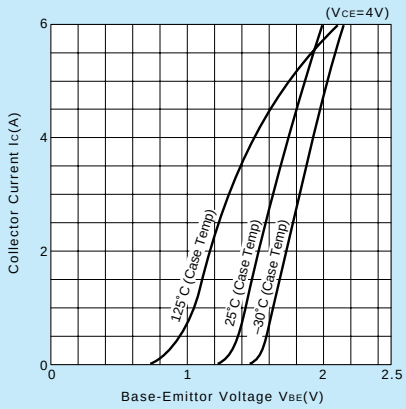
### $I_C$–$V_{CE}$ Characteristics (Typical)



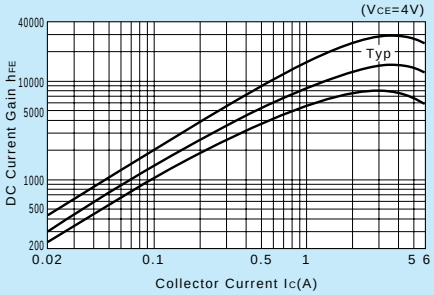

### $V_{CE(sat)}$–$I_B$ Characteristics (Typical)



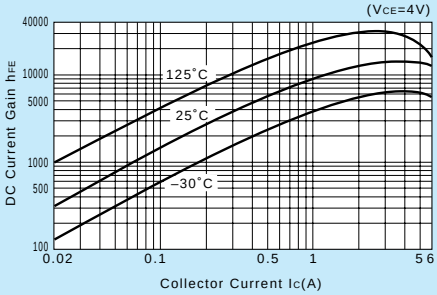

### $I_C$–$V_{BE}$ Temperature Characteristics (Typical)



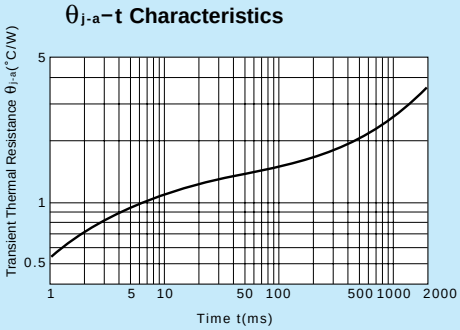

### $h_{FE}$–$I_C$ Characteristics (Typical)



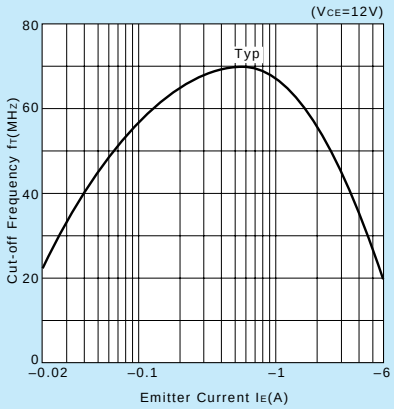

### $h_{FE}$–$I_C$ Temperature Characteristics (Typical)



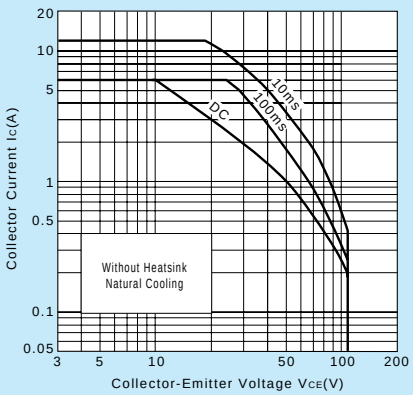

### $\theta_{j\text{-}a}$–t Characteristics



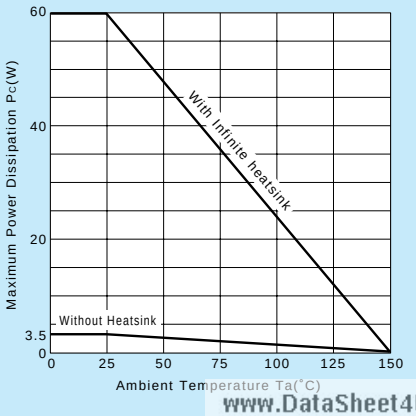

### $f_T$–$I_E$ Characteristics (Typical)




### Safe Operating Area (Single Pulse)




### $P_C$–Ta Derating




www.DataSheet4U.com