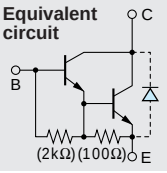
Darlington 2SD2083

Equivalent circuit



Silicon NPN Triple Diffused Planar Transistor (Complement to type 2SB1383)

Application : Driver for Solenoid, Motor and General Purpose

■Absolute maximum ratings (Ta=25°C)

Symbol	Ratings	Unit
V_{CBO}	120	V
V_{CEO}	120	V
V_{EBO}	6	V
I_C	25(Pulse40)	A
I_B	2	A
P_C	120(Tc=25°C)	W
Tj	150	°C
Tstg	–55 to +150	°C

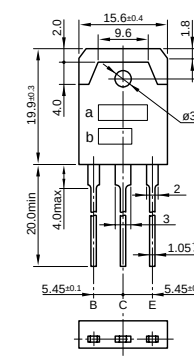
■Electrical Characteristics (Ta=25°C)

Symbol	Conditions	Ratings	Unit
I_{CBO}	V_{CB}=120V	10max	μA
I_{EBO}	V_{EB}=6V	10max	mA
$V_{(BR)CEO}$	I_C=25mA	120min	V
h_{FE}	V_{CE}=4V, I_C=12A	2000min	
$V_{CE(sat)}$	I_C=12A, I_B=24mA	1.8max	V
$V_{BE(sat)}$	I_C=12A, I_B=24mA	2.5max	V
f_T	V_{CE}=12V, I_E=–1A	20typ	MHz
C_{OB}	V_{CB}=10V, f=1MHz	340typ	pF

■Typical Switching Characteristics (Common Emitter)

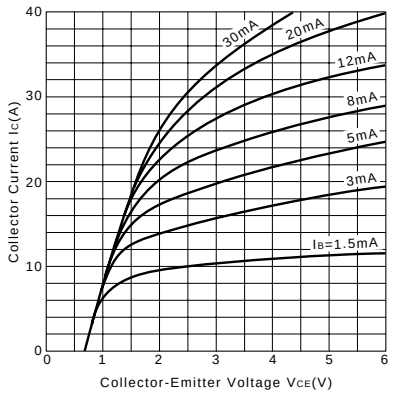
V_{CC} (V)	R_L (Ω)	I_C (A)	V_{BB1} (V)	V_{BB2} (V)	I_{B1} (mA)	I_{B2} (mA)	ton (μs)	tstg (μs)	tf (μs)
24	2	12	10	–5	24	–24	1.0typ	6.0typ	1.0typ

External Dimensions MT-100(TO3P)

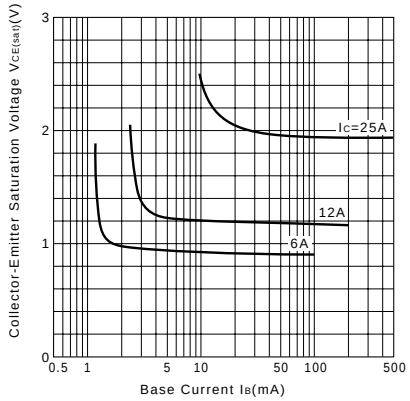


Weight : Approx 6.0g
a. Part No.
b. Lot No.

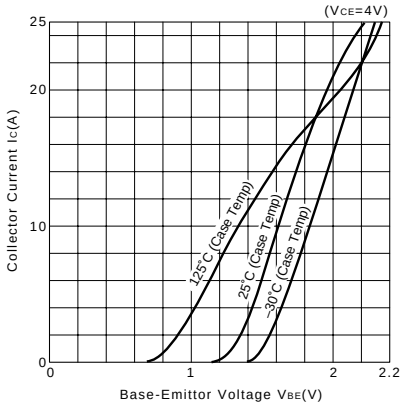
I_C–V_{CE} Characteristics (Typical)



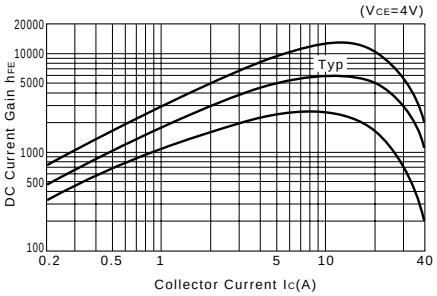
$V_{CE(sat)}$–I_B Characteristics (Typical)



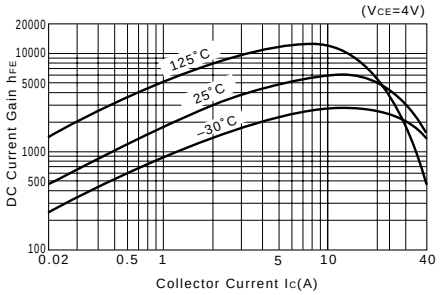
I_C–V_{BE} Temperature Characteristics (Typical)



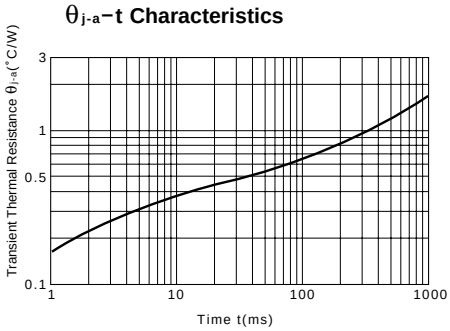
h_{FE}–I_C Characteristics (Typical)



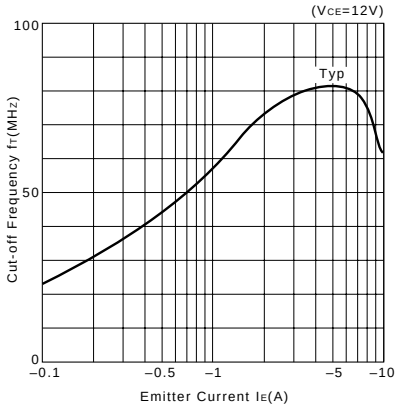
h_{FE}–I_C Temperature Characteristics (Typical)



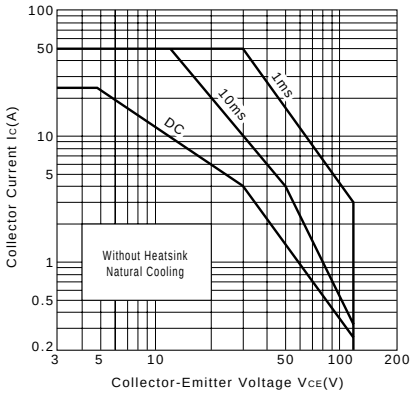
$\theta_{j\text{-}a}$–t Characteristics



f_T–I_E Characteristics (Typical)



Safe Operating Area (Single Pulse)



Pc–Ta Derating