SDC07

NPN Darlington

3-phase motor drive

External dimensions Ⓔ ··· SD

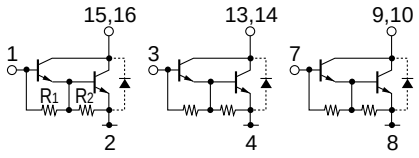
Absolute maximum ratings (Ta=25°C)

Symbol	Ratings	Unit
V_{CBO}	60	V
V_{CEO}	60	V
V_{EBO}	6	V
I_C	4	A
I_{CP}	6 (PW≤1ms, Du≤50%)	A
I_B	0.5	A
P_T	2.6 (Ta=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_{CBO}			10	μA	V_{CB}=60V
I_{EBO}			10	mA	V_{EB}=6V
V_{CEO}	60			V	I_C=10mA
h_{FE}	2000		12000		V_{CE}=4V, I_C=3A
V_{CE}(sat)			1.5	V	I_C=3A, I_B=6mA
V_{BE}(sat)			2.0	V	
V_{FEC}			1.8	V	I_{FEC}=1A
ton		1.0		μs	V_{CC}≒30V,
tstg		4.0		μs	I_C=3A,
tf		1.5		μs	I_{B1}=–I_{B2}=10mA
f_T		75		MHz	V_{CE}=12V, I_E=–0.1A
Cob		50		pF	V_{CB}=10V, f=1MHz

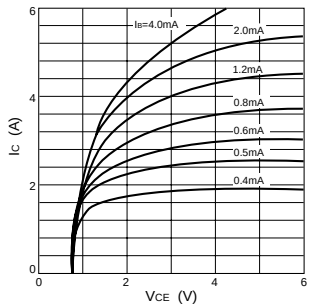
■Equivalent circuit diagram



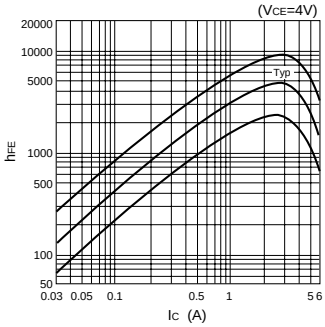
R1: 3kΩ typ R2: 200Ω typ *Pins 5, 6, 11, 12 : NC

Characteristic curves

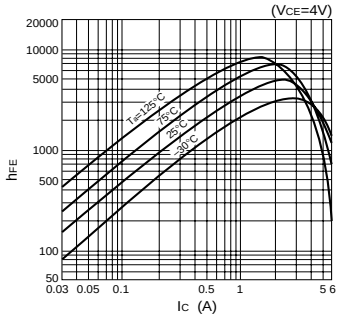
I_C-V_{CE} Characteristics (Typical)



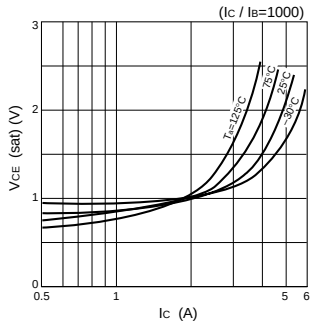
h_{FE}-I_C Characteristics (Typical)



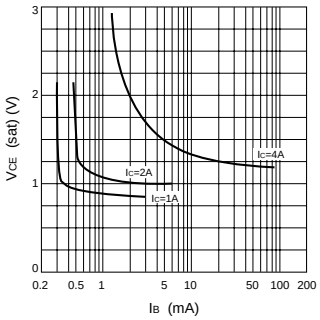
h_{FE}-I_C Temperature Characteristics (Typical)



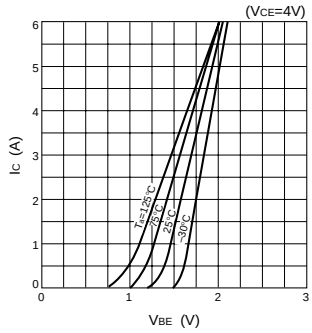
V_{CE}(sat)-I_C Temperature Characteristics (Typical)



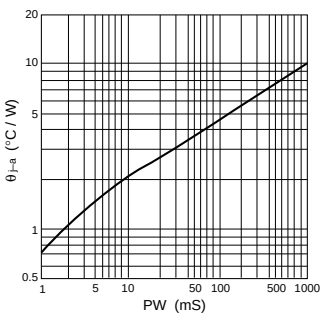
V_{CE}(sat)-I_B Characteristics (Typical)



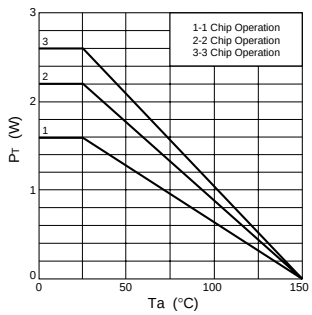
I_C-V_{BE} Temperature Characteristics (Typical)



$\theta_{j\text{-}a}$-PW Characteristics



P_T-Ta Characteristics



Safe Operating Area (SOA)

