SDC01

NPN

General purpose

External dimensions Ⓔ ··· SD

Absolute maximum ratings

(Ta=25°C)

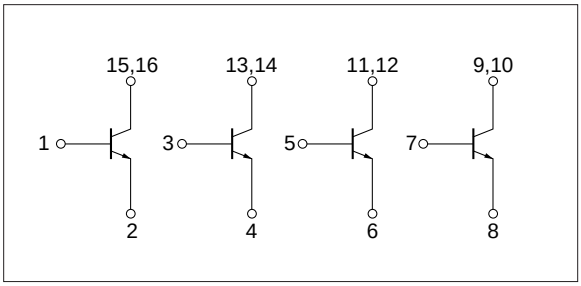
Symbol	Ratings	Unit
V_{CBO}	80	V
V_{CEO}	50	V
V_{EBO}	6	V
I_C	2	A
I_{CP}	3 (PW≤1ms, Du≤10%)	A
I_B	0.5	A
P_T	3 (Ta=25°C)	W
T_j	150	°C
T_{stg}	–40 to +150	°C
θ_{j-a}	41.6	°C/W

Electrical characteristics

(Ta=25°C)

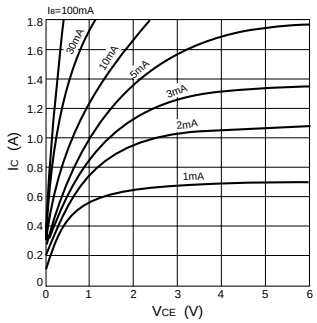
Symbol	Specification			Unit	Conditions
	min	typ	max		
I_{CBO}			10	μA	V_{CB}=80V
I_{CES}			100	μA	V_{CES}=50V
I_{EBO}			10	μA	V_{EB}=6V
V_{CEO}	50			V	I_C=10mA
h_{FE}	500		2000		V_{CE}=4V, I_C=0.5A
V_{CE}(sat)			0.4	V	I_C=0.5A, I_B=5mA
V_{BE}(sat)			1.1	V	
f_T		40		MHz	V_{CE}=12V, I_E=–0.1A

■Equivalent circuit diagram

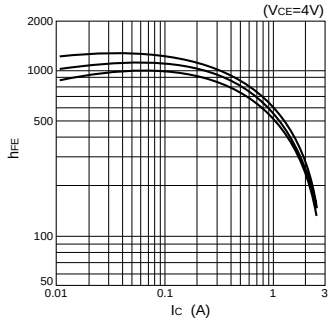


Characteristic curves

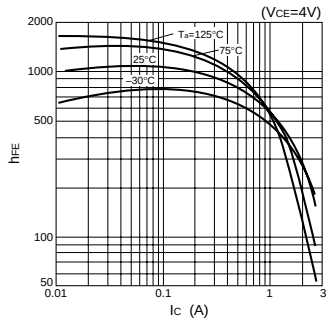
I_C-V_{CE} Characteristics (Typical)



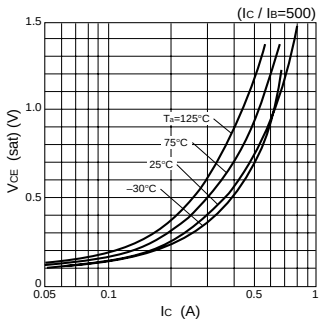
h_{FE}-I_C Characteristics (Typical)



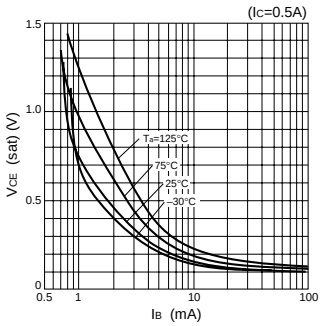
h_{FE}-I_C Temperature Characteristics (Typical)



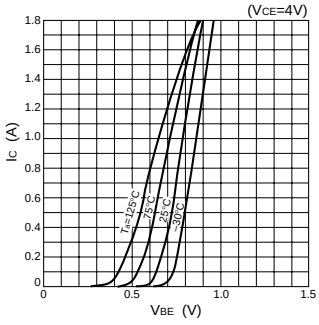
V_{CE}(sat)-I_C Temperature Characteristics (Typical)



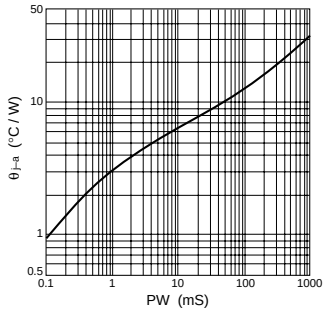
V_{CE}(sat)-I_B Temperature Characteristics (Typical)



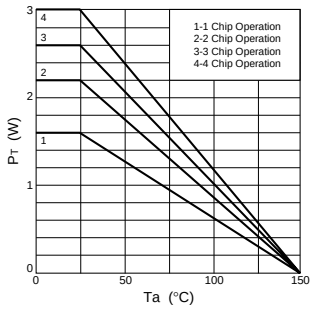
I_C-V_{BE} Temperature Characteristics (Typical)



θ_{j-a}-PW Characteristics



P_T-Ta Characteristics



Safe Operating Area (SOA)