

Absolute maximum ratings

($T_a=25^\circ\text{C}$)

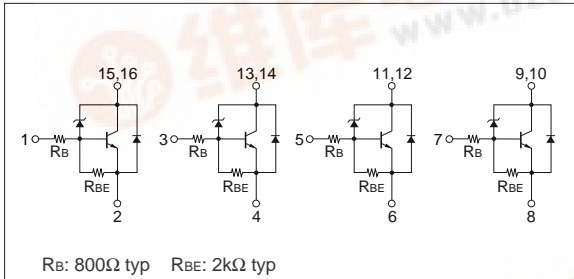
Symbol	Ratings	Unit
V_{CB0}	30 to 45	V
V_{CEO}	30 to 45	V
V_{EBO}	6	V
I_c	2	A
I_{CP}	3 ($PW \leq 1\text{ms}$, $D_u \leq 10\%$)	A
I_B	30	mA
P_T	3 ($T_a=25^\circ\text{C}$)	W
T_j	150	$^\circ\text{C}$
T_{stg}	-40 to +150	$^\circ\text{C}$
θ_{j-a}	41.6	$^\circ\text{C}/\text{W}$

Electrical characteristics

($T_a=25^\circ\text{C}$)

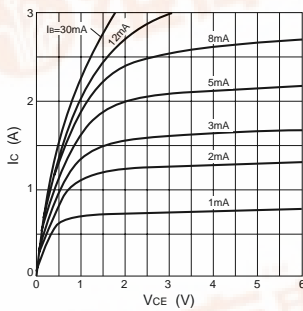
Symbol	Specification			Unit	Conditions
	min	typ	max		
I_{CBO}			10	μA	$V_{CB}=30\text{V}$
I_{EBO}	1.2		2.8	mA	$V_{EB}=6\text{V}$
V_{CEO}	30		45	V	$I_c=10\text{mA}$
h_{FE}	400	700	2000		$V_{CE}=4\text{V}$, $I_c=0.5\text{A}$
$V_{CE(sat)}$			0.2	V	$I_c=0.5\text{A}$, $I_B=5\text{mA}$
			0.6	V	$I_c=1\text{A}$, $I_B=5\text{mA}$
V_{FEC}			2.0	V	$I_{FEC}=1\text{A}$
t_{on}		1.2		μs	$V_{CC} \approx 10\text{V}$, $I_c=0.5\text{A}$,
t_{stg}		18.0		μs	$I_B=5\text{mA}$, $I_B=0\text{A}$
t_f		3.6		μs	
f_T		20		MHz	$V_{CE}=12\text{V}$, $I_E=-0.2\text{A}$
C_{ob}		50		pF	$V_{CB}=10\text{V}$, $f=1\text{MHz}$
$E_{S/B}$	40			mJ	$L=10\text{mH}$, Single pulse

Equivalent circuit diagram

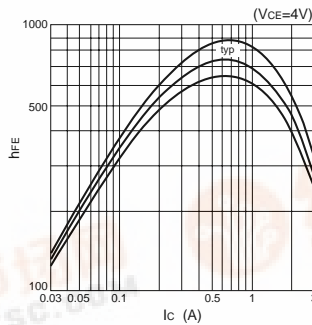


Characteristic curves

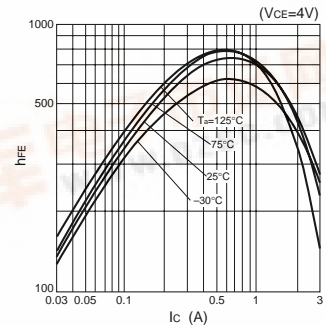
I_c - V_{CE} Characteristics (Typical)



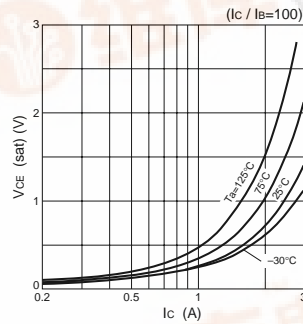
h_{FE} - I_c Characteristics (Typical)



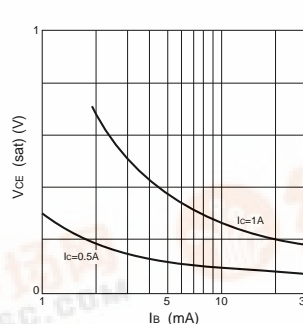
h_{FE} - I_c Temperature Characteristics (Typical)



$V_{CE(sat)}$ - I_c Temperature Characteristics (Typical)

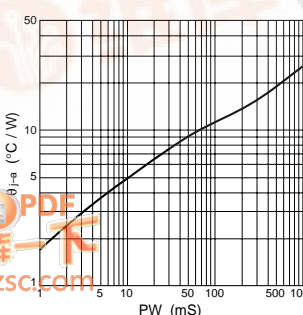


$V_{CE(sat)}$ - I_B Characteristics (Typical)

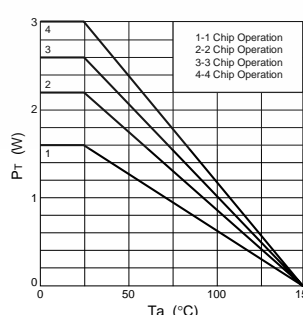


I_c - V_{BE} Temperature Characteristics (Typical)

θ_{j-a} - PW Characteristics



P_T - T_a Characteristics



Safe Operating Area (SOA)

