

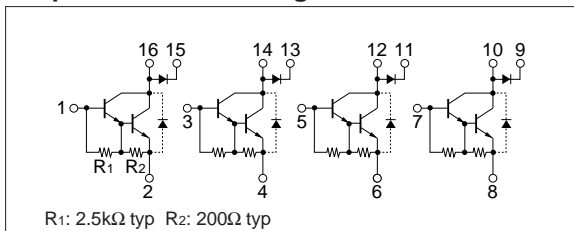
## Absolute maximum ratings (Ta=25°C)

Symbol	Ratings	Unit
V <sub>CB0</sub>	120	V
V <sub>CEO</sub>	100	V
V <sub>EBO</sub>	6	V
I <sub>C</sub>	1.5	A
I <sub>CP</sub>	2.5 (PW≤1ms, Du≤10%)	A
I <sub>B</sub>	0.2	A
I <sub>F</sub>	1.5	A
I <sub>FSM</sub>	2.5 (PW≤0.5ms, Du≤10%)	A
V <sub>R</sub>	120	V
P <sub>T</sub>	3 (Ta=25°C)	W
T <sub>j</sub>	150	°C
T <sub>stg</sub>	-40 to +150	°C

## Electrical characteristics (Ta=25°C)

Symbol	Specification			Unit	Conditions
	min	typ	max		
I <sub>CB0</sub>			10	μA	V <sub>CB</sub> =120V
I <sub>EBO</sub>			3	mA	V <sub>EB</sub> =6V
V <sub>CEO</sub>	100			V	I <sub>C</sub> =10mA
h <sub>FE</sub>	2000	6000	12000		V <sub>CE</sub> =4V, I <sub>C</sub> =1A
V <sub>CE(sat)</sub>		1.1	1.3	V	I <sub>C</sub> =1A, I <sub>B</sub> =2mA
V <sub>BE(sat)</sub>		1.7	2.2	V	
t <sub>on</sub>		0.5		μs	V <sub>CC</sub> ≐30V, I <sub>C</sub> =1A,
t <sub>stg</sub>		4.5		μs	
t <sub>f</sub>		1.2		μs	I <sub>B1</sub> =-I <sub>B2</sub> =2mA
f <sub>T</sub>		50		MHz	V <sub>CE</sub> =12V, I <sub>E</sub> =-0.1A
C <sub>ob</sub>		20		pF	V <sub>CB</sub> =10V, f=1MHz

## Equivalent circuit diagram

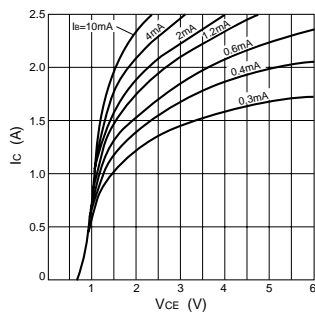


## Diode for flyback voltage absorption (Ta=25°C)

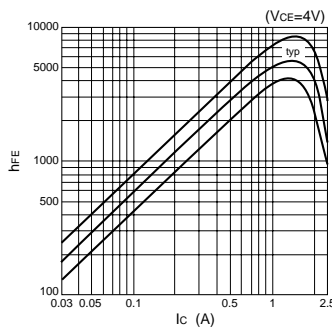
Symbol	Specification			Unit	Conditions
	min	typ	max		
V <sub>R</sub>	120			V	I <sub>R</sub> =10μA
V <sub>F</sub>			1.6	V	I <sub>F</sub> =1A
I <sub>R</sub>			10	μA	V <sub>R</sub> =120V
t <sub>rr</sub>		100		ns	I <sub>F</sub> =±100mA

## Characteristic curves

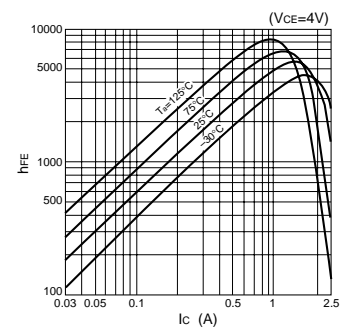
I<sub>C</sub>-V<sub>CE</sub> Characteristics (Typical)



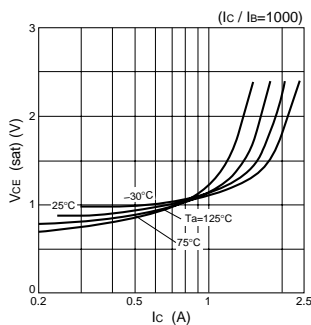
h<sub>FE</sub>-I<sub>C</sub> Characteristics (Typical)



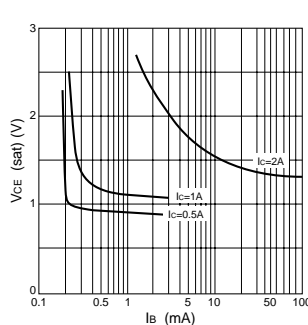
h<sub>FE</sub>-I<sub>C</sub> Temperature Characteristics (Typical)



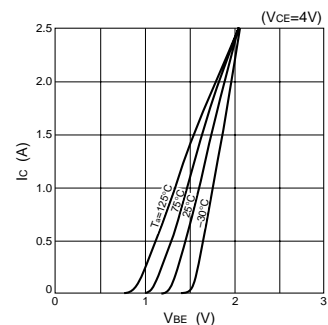
V<sub>CE(sat)</sub>-I<sub>C</sub> Temperature Characteristics (Typical)



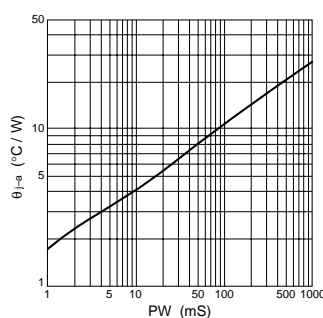
V<sub>CE(sat)</sub>-I<sub>B</sub> Characteristics (Typical)



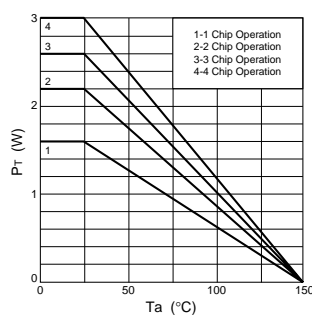
I<sub>C</sub>-V<sub>BE</sub> Temperature Characteristics (Typical)



θ<sub>J-a</sub>-PW Characteristics



P<sub>T</sub>-T<sub>a</sub> Characteristics



Safe Operating Area (SOA)

