

## Absolute maximum ratings

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

Symbol	Specification	Unit
$V_{CB0}$	120	V
$V_{CE0}$	120	V
$V_{EBO}$	6	V
$I_c$	4	A
$I_{CP}$	6 (PW $\leq$ 1ms, Du $\leq$ 50%)	A
$I_B$	0.5	A
$I_F$	4 (PW $\leq$ 0.5ms, Du $\leq$ 25%)	A
$I_{FSM}$	6 (PW $\leq$ 10ms, Single)	A
$V_R$	120	V
$P_T$	5 ( $T_a=25^\circ\text{C}$ )	W
	25 ( $T_c=25^\circ\text{C}$ )	
$V_{ISO}$	1000 (Between fin and lead pin, AC)	V <sub>rms</sub>
$T_j$	150	$^\circ\text{C}$
$T_{stg}$	-40 to +150	$^\circ\text{C}$
$\theta_{j-c}$	5	$^\circ\text{C}/\text{W}$

## Electrical characteristics

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

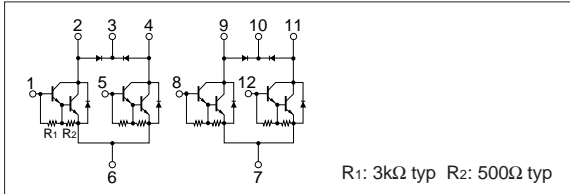
Symbol	Specification			Unit	Conditions
	min	typ	max		
$I_{CBO}$			10	$\mu\text{A}$	$V_{CB}=120\text{V}$
$I_{EBO}$			10	mA	$V_{EB}=6\text{V}$
$V_{CE0}$	120			V	$I_c=25\text{mA}$
$h_{FE}$	2000	5000	15000		$V_{CE}=2\text{V}, I_c=2\text{A}$
$V_{CE}(\text{sat})$		1.0	1.5	V	$I_c=2\text{A}, I_B=2\text{mA}$
$V_{BE}(\text{sat})$		1.6	2.0	V	
$t_{on}$		0.6		$\mu\text{s}$	$V_{CC}=40\text{V}, I_c=2\text{A}, I_{B1}=-I_{B2}=10\text{mA}$
$t_{stg}$		5.0		$\mu\text{s}$	
$t_f$		2.0		$\mu\text{s}$	

## Diode for flyback voltage absorption

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

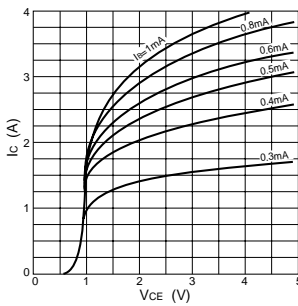
Symbol	Specification			Unit	Conditions
	min	typ	max		
$V_R$	120			V	$I_R=10\mu\text{A}$
$V_F$			1.2	V	$I_F=1\text{A}$
$I_R$			10	$\mu\text{A}$	$V_R=120\text{V}$
$t_{rr}$		100		ns	$I_F=\pm 100\text{mA}$

## Equivalent circuit diagram

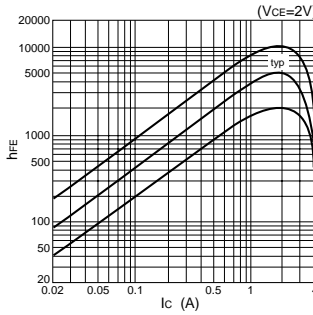


## Characteristic curves

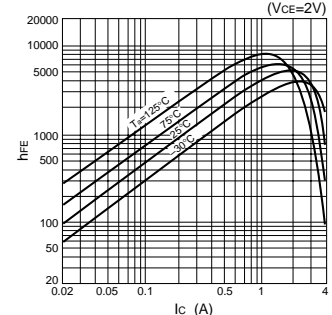
$I_c$ - $V_{CE}$  Characteristics (Typical)



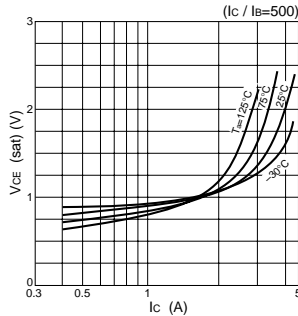
$h_{FE}$ - $I_c$  Characteristics (Typical)



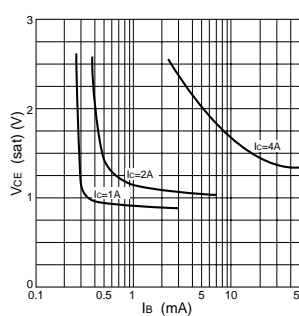
$h_{FE}$ - $I_c$  Temperature Characteristics (Typical)



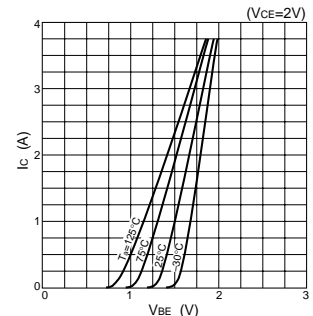
$V_{CE}(\text{sat})$ - $I_c$  Temperature Characteristics (Typical)



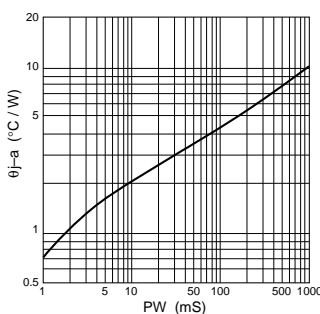
$V_{CE}(\text{sat})$ - $I_B$  Characteristics (Typical)



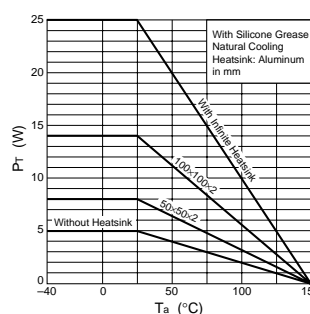
$I_c$ - $V_{BE}$  Temperature Characteristics (Typical)



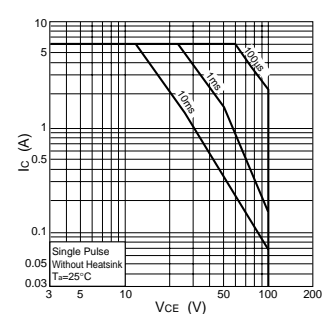
$\theta_{j-a}$ -PW Characteristics



$P_T$ - $T_a$  Characteristics



Safe Operating Area (SOA)





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