

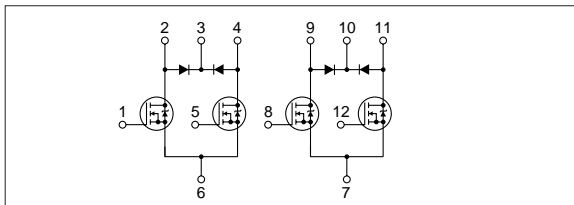
Absolute maximum ratings

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

Symbol	Ratings	Unit
V_{DSS}	100	V
V_{GSS}	± 20	V
I_D	± 4	A
$I_{D(pulse)}$	± 8 ($PW \leq 1\text{ms}$)	A
E_{AS}^*	16	mJ
I_F	4 ($PW \leq 0.5\text{ms}$, $D_u \leq 25\%$)	A
I_{FSM}	8 ($PW \leq 10\text{ms}$, Single pulse)	A
V_R	120	V
P_T	5 ($T_a=25^\circ\text{C}$, with all circuits operating, without heatsink)	W
	35 ($T_c=25^\circ\text{C}$, with all circuits operating, with infinite heatsink)	W
θ_{j-a}	25 (Junction-Air, $T_a=25^\circ\text{C}$, with all circuits operating)	$^\circ\text{C/W}$
θ_{j-c}	3.57 (Junction-Case, $T_c=25^\circ\text{C}$, with all circuits operating)	$^\circ\text{C/W}$
V_{ISO}	1000 (Between fin and lead pin, AC)	Vrms
T_{ch}	150	$^\circ\text{C}$
T_{stg}	-40 to +150	$^\circ\text{C}$

* : $V_{DD}=20\text{V}$, $L=1\text{mH}$, $I_D=5\text{A}$, unclamped, see Fig. E on page 15.

Equivalent circuit diagram



Characteristic curves

Electrical characteristics

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

Symbol	Specification			Unit	Conditions
	min	typ	max		
$V_{(BR)DSS}$	100			V	$I_D=250\mu\text{A}$, $V_{GS}=0\text{V}$
I_{GSS}			± 500	nA	$V_{GS}=\pm 20\text{V}$
I_{DSS}			250	μA	$V_{DS}=100\text{V}$, $V_{GS}=0\text{V}$
V_{TH}	2.0		4.0	V	$V_{DS}=10\text{V}$, $I_D=250\mu\text{A}$
$R_{e(yfs)}$	1.1	1.7		S	$V_{DS}=10\text{V}$, $I_D=4\text{A}$
$R_{DS(ON)}$		0.50	0.60	Ω	$V_{GS}=10\text{V}$, $I_D=4\text{A}$
C_{iss}		180		pF	$V_{DS}=25\text{V}$, $f=1.0\text{MHz}$, $V_{GS}=0\text{V}$
C_{oss}		82		pF	
t_{on}		40		ns	$I_D=4\text{A}$, $V_{DD}=50\text{V}$, $V_{GS}=10\text{V}$, see Fig. 3 on page 16.
t_{off}		40		ns	
V_{SD}		1.2	2.0	V	$I_{SD}=4\text{A}$, $V_{GS}=0\text{V}$
t_{rr}		250		ns	$I_{SD}=\pm 100\text{mA}$

Diode for flyback voltage absorption

Symbol	Specification			Unit	Conditions
	min	typ	max		
V_R	120			V	$I_R=10\mu\text{A}$
V_F		1.0	1.2	V	$I_F=1\text{A}$
I_R			10	μA	$V_R=120\text{V}$
t_{rr}		100		ns	$I_F=\pm 100\text{mA}$