

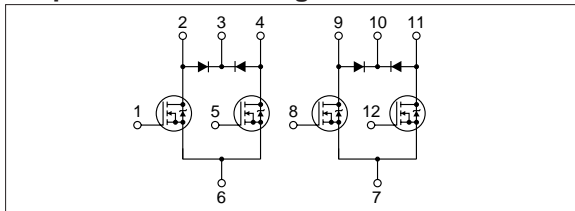
Absolute maximum ratings

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

Symbol	Ratings	Unit
V_{DSS}	200	V
V_{GSS}	± 20	V
I_D	± 5	A
$I_D(\text{pulse})$	± 10 ($PW \leq 1\text{ms}$)	A
E_{AS}^*	60	mJ
I_F	$5(PW \leq 0.5\text{ms}, Du \leq 25\%)$	A
I_{FSM}	$10(PW \leq 10\text{ms}, \text{Single pulse})$	A
V_R	200	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	$^\circ\text{C}$

* : $V_{DD}=20\text{V}$, $L=10\text{mH}$, $I_D=3.5\text{A}$, unclamped, see Fig. E on page 15.

Equivalent circuit diagram



Electrical characteristics

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

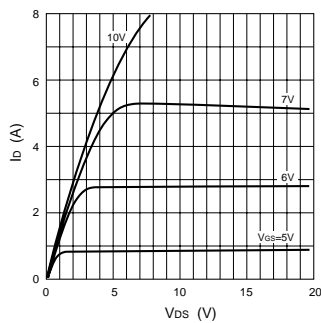
Symbol	Specification			Unit	Conditions
	min	typ	max		
$V_{(BR)DSS}$	200			V	$I_D=250\mu\text{A}$, $V_{GS}=0\text{V}$
I_{GSS}			± 500	nA	$V_{GS}=\pm 20\text{V}$
I_{DSS}			250	μA	$V_{DS}=200\text{V}$, $V_{GS}=0\text{V}$
V_{TH}	2.0		4.0	V	$V_{DS}=10\text{V}$, $I_D=250\mu\text{A}$
$R_{e(yfs)}$	1.3	2.5		S	$V_{DS}=10\text{V}$, $I_D=5\text{A}$
$R_{DS(ON)}$		0.67	0.9	Ω	$V_{GS}=10\text{V}$, $I_D=5\text{A}$
C_{iss}		260		pF	$V_{DS}=25\text{V}$, $f=1.0\text{MHz}$, $V_{GS}=0\text{V}$
C_{oss}		100		pF	
t_{on}		50		ns	$I_D=5\text{A}$, $V_{DD} \approx 100\text{V}$, $V_{GS}=10\text{V}$, see Fig. 3 on page 16.
t_{off}		60		ns	
V_{SD}		1.1	1.5	V	$I_{SD}=5\text{A}$, $V_{GS}=0\text{V}$
t_{rr}		700		ns	$I_{SD}=\pm 100\text{mA}$

Diode for flyback voltage absorption (1 circuit)

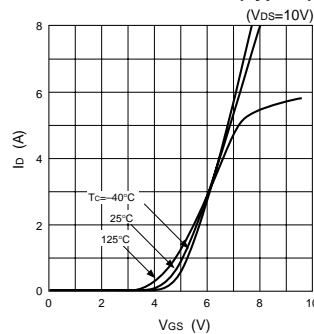
Symbol	Specification			Unit	Conditions
	min	typ	max		
V_R	200			V	$I_R=10\mu\text{A}$
V_F		1.0	1.2	V	$I_F=1\text{A}$
		1.5	2.0	V	$I_F=5\text{A}$
I_R			10	μA	$V_R=200\text{V}$
t_{rr}		100		ns	$I_F=\pm 100\text{mA}$

Characteristic curves

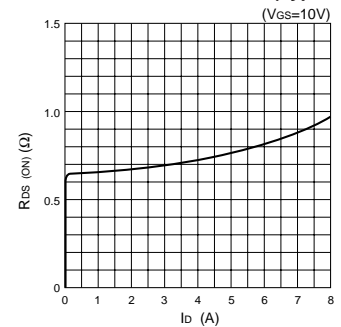
I_D - V_{DS} Characteristics (Typical)



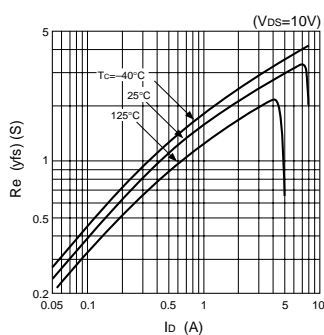
I_D - V_{GS} Characteristics (Typical)



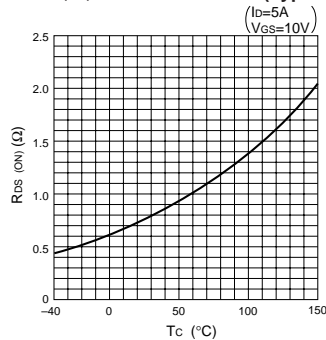
$R_{DS(ON)}$ - I_D Characteristics (Typical)



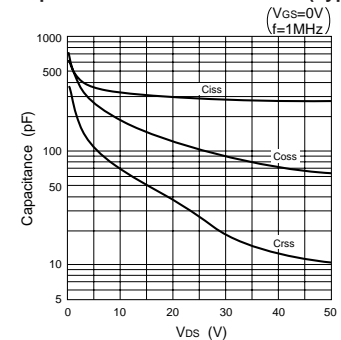
$R_{e(yfs)}$ - I_D Characteristics (Typical)



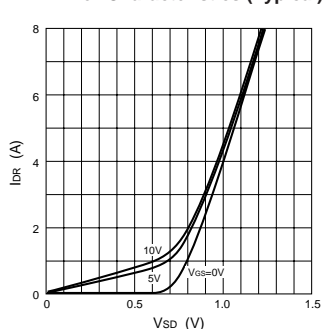
$R_{DS(ON)}$ - T_c Characteristics (Typical)



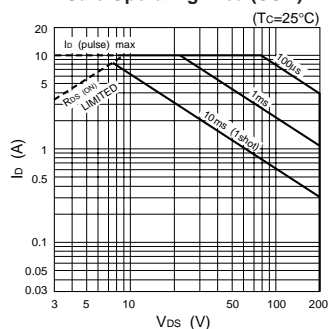
Capacitance- V_{DS} Characteristics (Typical)



I_{DR} - V_{SD} Characteristics (Typical)



Safe Operating Area (SOA)



P_T - T_a Characteristics

