

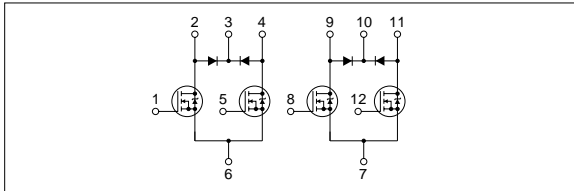
Absolute maximum ratings

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

Symbol	Ratings	Unit
V_{DSS}	100	V
V_{GSS}	± 20	V
I_D	± 5	A
$I_{D(pulse)}$	± 10 ($PW \leq 1ms$)	A
E_{AS}^*	30	mJ
I_F	5 ($PW \leq 0.5ms, Du \leq 25\%$)	A
I_{FSM}	10 ($PW \leq 10ms, \text{Single Pulse}$)	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	$^\circ\text{C}$

*: $V_{DD}=20V, L=10mH, I_D=2.5A$, unclamped, see Fig. E on page 15

Equivalent circuit diagram



Electrical characteristics

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

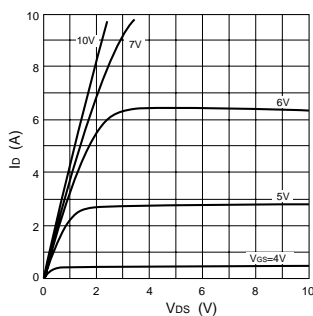
Symbol	Specification			Unit	Conditions
	min	typ	max		
$V_{(BR)DSS}$	100			V	$I_D=250\mu A, V_{GS}=0V$
I_{GSS}			± 500	nA	$V_{GS}=\pm 20V$
I_{DSS}			250	μA	$V_{DS}=100V, V_{GS}=0V$
V_{TH}	2.0		4.0	V	$V_{DS}=10V, I_D=250\mu A$
$R_{e(yfs)}$	2.4	3.7		S	$V_{DS}=10V, I_D=5A$
$R_{DS(ON)}$		0.27	0.30	Ω	$V_{GS}=10V, I_D=5A$
C_{iss}		350		pF	$V_{DS}=25V, f=1.0MHz, V_{GS}=0V$
C_{oss}		130		pF	
t_{on}		60		ns	$I_D=5A, V_{DD}=50V, V_{GS}=10V$, see Fig. 3 on page 16.
t_{off}		40		ns	
V_{SD}		1.1	1.8	V	$I_{SD}=5A, V_{GS}=0V$
t_{rr}		330		ns	$I_{SD}=\pm 100mA$

Diode for flyback voltage absorption

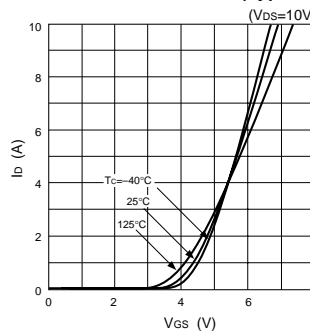
Symbol	Specification			Unit	Conditions
	min	typ	max		
V_R	120			V	$I_R=10\mu A$
V_F		1.0	1.2	V	$I_F=1A$
I_R			10	μA	$V_R=120V$
t_{rr}		100		ns	$I_F=\pm 100mA$

Characteristic curves

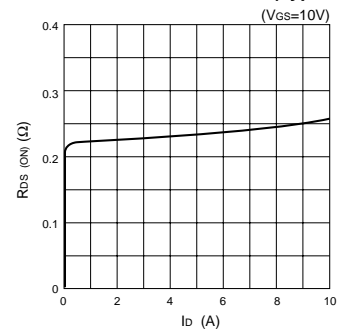
I_D - V_{DS} Characteristics (Typical)



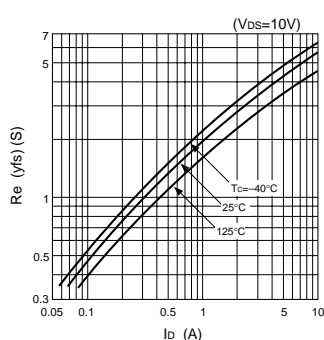
I_D - V_{GS} Characteristics (Typical)



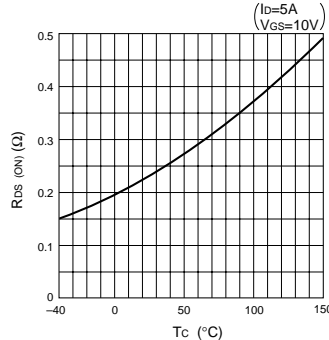
$R_{DS(ON)}$ - I_D Characteristics (Typical)



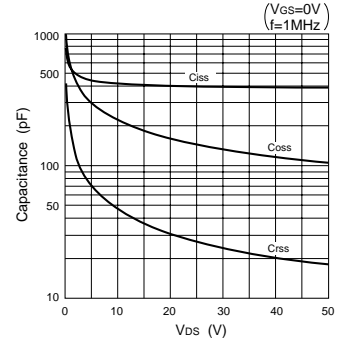
$R_{e(yfs)}$ - I_D Characteristics (Typical)



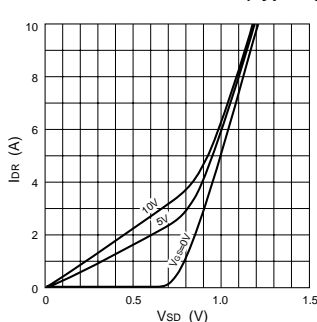
$R_{DS(ON)}$ - T_c Characteristics (Typical)



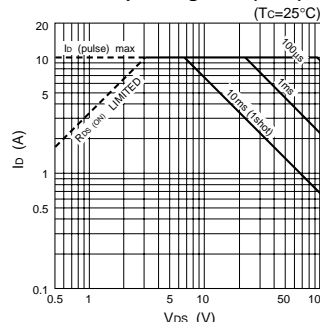
Capacitance- V_{DS} Characteristics (Typical)



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



Safe Operating Area (SOA)



P_T - T_a Characteristics

