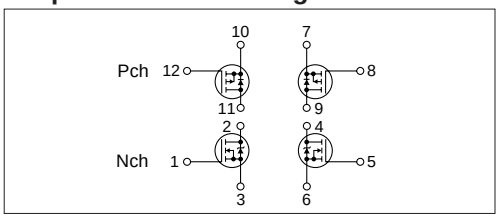
Absolute maximum ratings

(Ta=25°C)

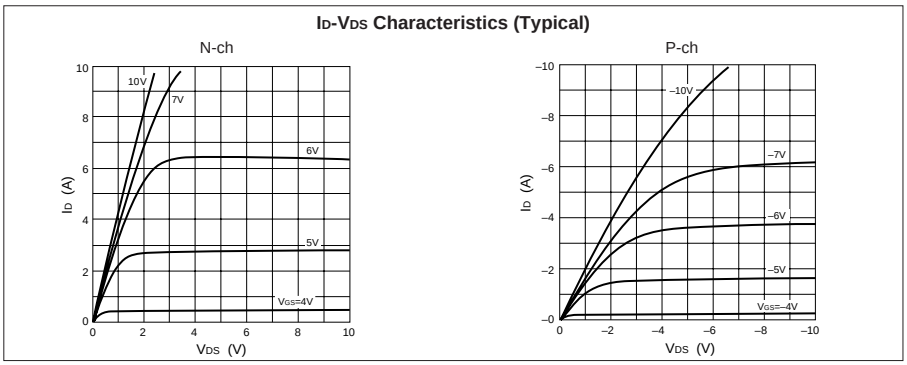
Symbol	Ratings		Unit
	N channel	P channel	
V_{DSS}	100	–100	V
V_{GSS}	±20	∓20	V
I_D	±5	∓5	A
$I_{D(pulse)}$	±10 (PW≤1ms)	∓10 (PW≤1ms)	A
E_{AS}*	30	—	mJ
P_T	5 (Ta=25°C, with all circuits operating, without heatsink)		W
	35 (Tc=25°C, with all circuits operating, with infinite heatsink)		W
$\theta_{j\text{-}a}$	25 (Junction-Air, Ta=25°C, with all circuits operating)		°C/W
$\theta_{j\text{-}c}$	3.57 (with all circuits operating, Tc=25°C, with all circuits operating)		°C/W
V_{ISO}	1000 (Between fin and lead pin, AC)		Vrms
Tch	150		°C
Tstg	–40 to +150		°C

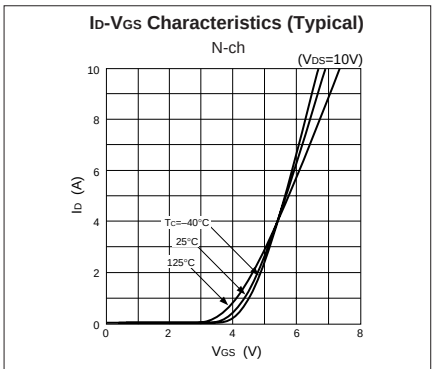
* : V_{DD}=20V, L=10mH, I_D=2.5A, unclamped, see Fig. E on page 15.

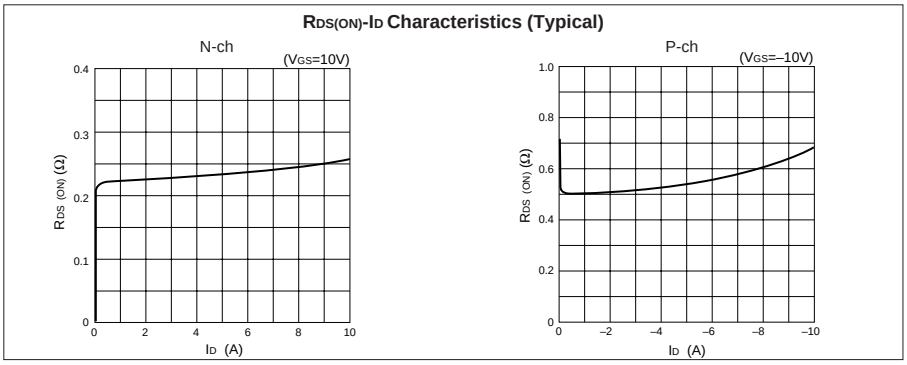
■Equivalent circuit diagram

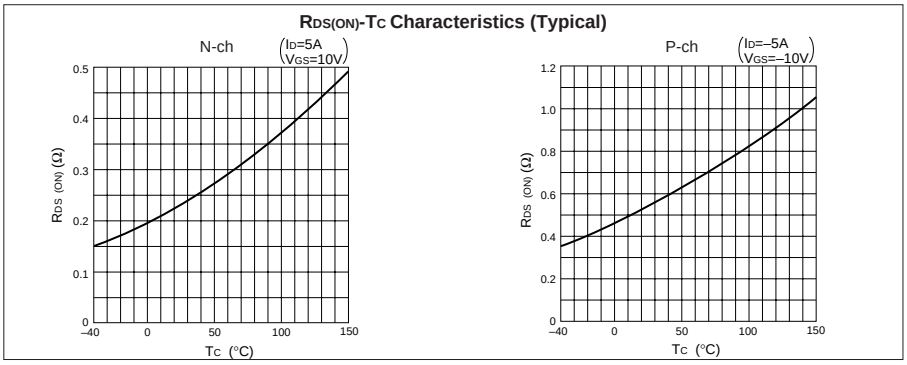


Characteristic curves









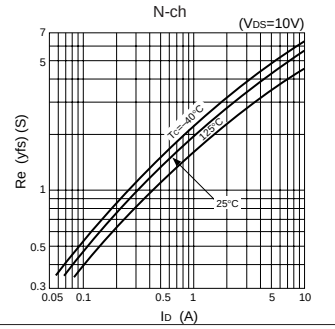
Electrical characteristics

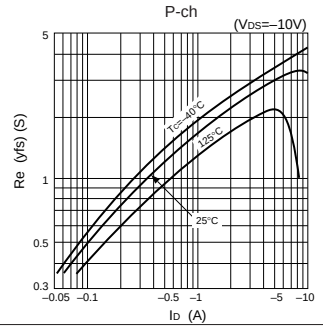
(Ta=25°C)

Symbol	N channel					P channel				
	Specification			Unit	Conditions	Specification			Unit	Conditions
	min	typ	max			min	typ	max		
$V_{(BR)DSS}$	100			V	I_D=250μA, V_{GS}=0V	–100			V	I_D=–250μA, V_{GS}=0V
I_{GSS}			±500	nA	V_{GS}=±20V			∓500	nA	V_{GS}=∓20V
I_{DSS}			250	μA	V_{DS}=100V, V_{GS}=0V			–250	μA	V_{DS}=–100V, V_{GS}=0V
V_{TH}	2.0		4.0	V	V_{DS}=10V, I_D=250μA	–2.0		–4.0	V	V_{DS}=–10V, I_D=–250μA
$Re_{(yfs)}$	2.4	3.7		S	V_{DS}=10V, I_D=5A	0.9	2.0		S	V_{DS}=–10V, I_D=–5A
$R_{DS(ON)}$		0.27	0.30	Ω	V_{GS}=10V, I_D=5A		0.55	0.7	Ω	V_{GS}=–10V, I_D=–5A
Ciss		350		pF	V_{DS}=25V, f=1.0MHz,		300		pF	V_{DS}=–25V, f=1.0MHz,
Coss		130		pF	V_{GS}=0V		200		pF	V_{GS}=0V
t_{on}		60		ns	I_D=5A, V_{DD}≒50V, V_{GS}=10V,		150		ns	I_D=–5A, V_{DD}≒–50V, V_{GS}=–10V,
t_{off}		40		ns	see Fig. 3 on page 16.		200		ns	see Fig. 4 on page 16.
V_{SD}		1.1	1.8	V	I_{SD}=5A, V_{GS}=0V		–4.5	–5.5	V	I_{SD}=–5A, V_{GS}=0V
t_{rr}		330		ns	I_{SD}=±100mA		220		ns	I_{SD}=∓100mA

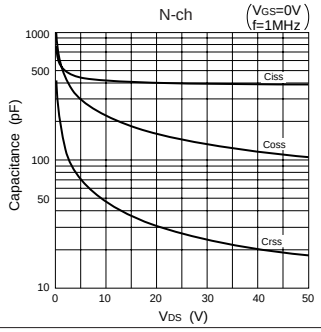
Characteristic curves

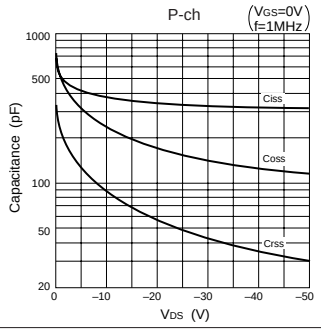
$Re_{(yfs)}$-I_D Characteristics (Typical)



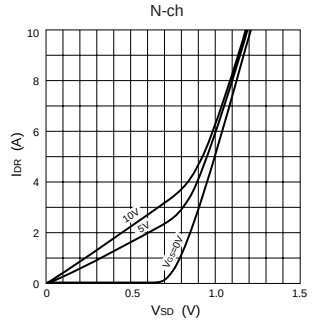


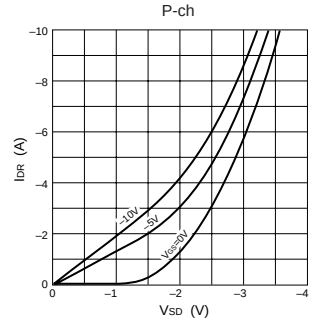
Capacitance-V_{DS} Characteristics (Typical)



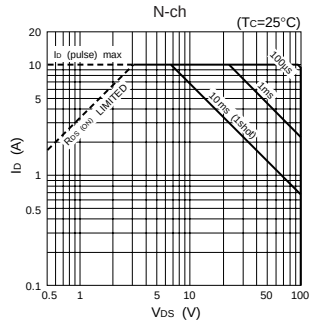


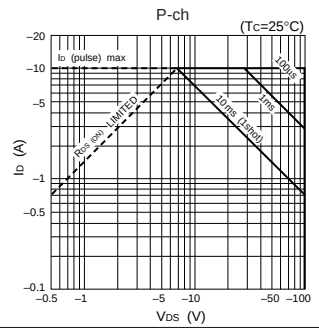
I_{DR}-V_{SD} Characteristics (Typical)





Safe Operating Area (SOA)





P_T-T_a Characteristics