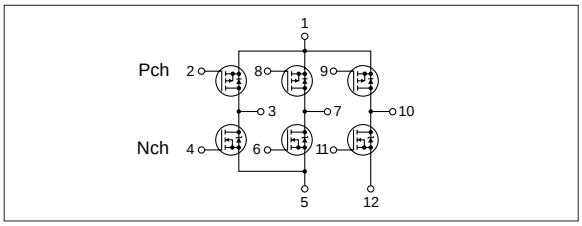
Absolute maximum ratings

(Ta=25°C)

Symbol	Ratings		Unit
	N channel	P channel	
V_{DSS}	60	–60	V
V_{GSS}	±20	∓20	V
I_D	±5	∓4	A
$I_{D(pulse)}$	±10 (PW≤1ms)	∓8 (PW≤1ms)	A
E_{AS}*	2	—	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 (Junction-Case, 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

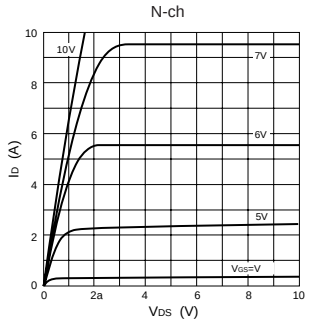
* : V_{DD}=20V, L=1mH, I_D=2A, unclamped, see Fig. E on page 15.

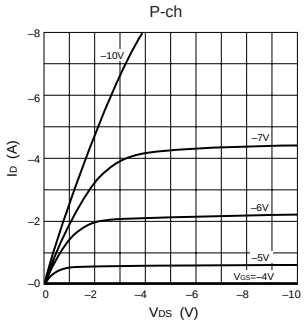
■Equivalent circuit diagram



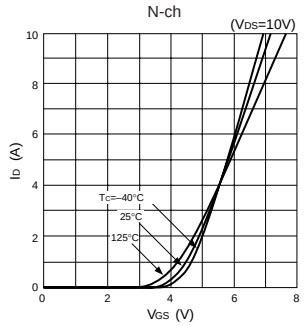
Characteristic curves

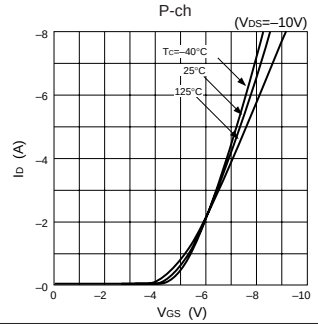
I_D-V_{DS} Characteristics (Typical)



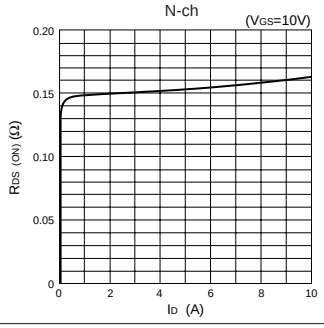


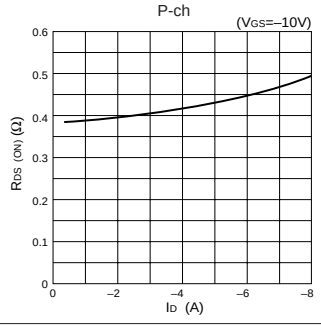
I_D-V_{GS} Characteristics (Typical)



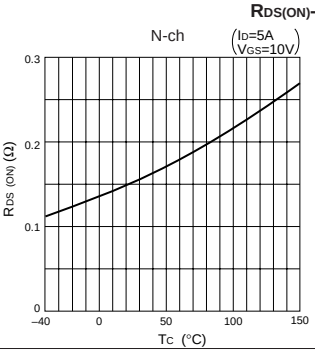


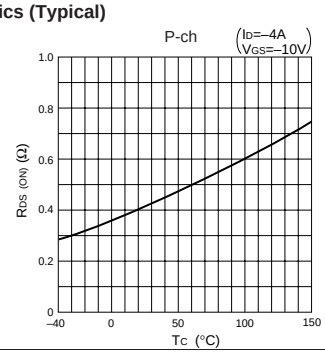
$R_{DS(ON)}$-I_D Characteristics (Typical)





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





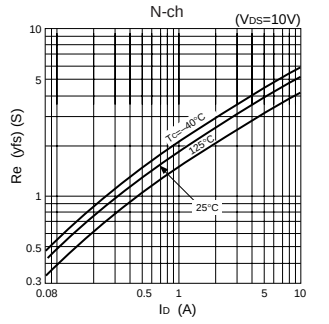
Electrical characteristics

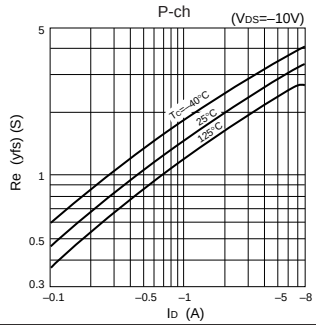
(Ta=25°C)

Symbol	N channel					P channel				
	Specification			Unit	Conditions	Specification			Unit	Conditions
	min	typ	max			min	typ	max		
$V_{(BR)DSS}$	60			V	I_D=250μA, V_{GS}=0V	–60			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}=60V, V_{GS}=0V			–250	μA	V_{DS}=–60V, 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
$Re_{(yfs)}$	2.2	3.3		S	V_{DS}=10V, I_D=5A	1.6	2.2		S	V_{DS}=–10V, I_D=–4A
$R_{DS(ON)}$		0.17	0.22	Ω	V_{GS}=10V, I_D=5A		0.38	0.55	Ω	V_{GS}=–10V, I_D=–4A
Ciss		300		pF	V_{DS}=25V, f=1.0MHz,		270		pF	V_{DS}=–25V, f=1.0MHz,
Coss		160		pF	V_{GS}=0V		170		pF	V_{GS}=0V
t_{on}		35		ns	I_D=5A, V_{DD}≒30V, V_{GS}=–10V,		60		ns	I_D=–4A, V_{DD}≒–30V, V_{GS}=–10V,
t_{off}		35		ns	see Fig. 3 on page 16.		60		ns	see Fig. 4 on page 16.
V_{SD}		1.1	1.5	V	I_{SD}=5A, V_{GS}=0V		–4.4	–5.5	V	I_{SD}=–4A, V_{GS}=0V
t_{rr}		140		ns	I_{SD}=±100mA		150		ns	I_{SD}=∓100mA

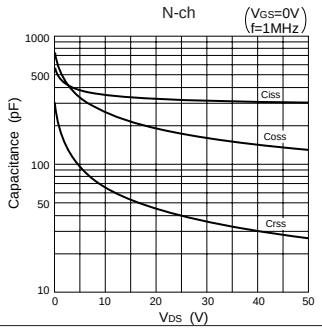
Characteristic curves

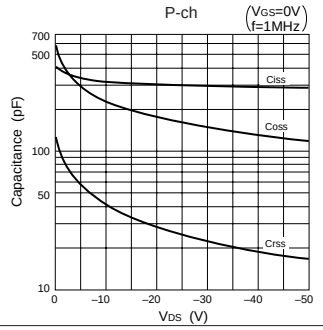
$Re_{(yfs)}$-I_D Characteristics (Typical)



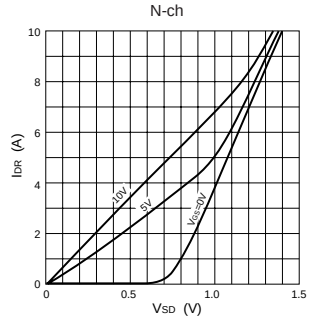


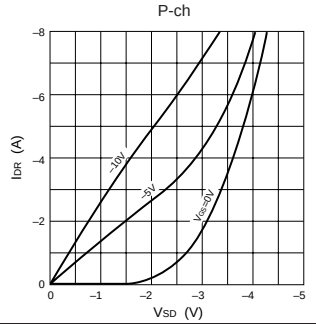
Capacitance-V_{DS} Characteristics (Typical)



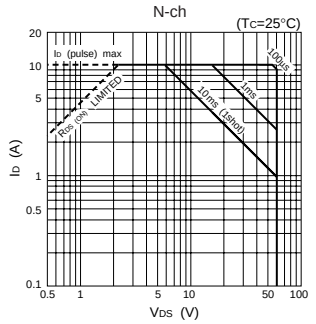


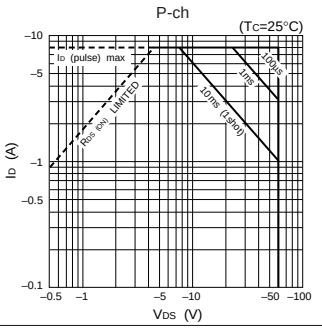
I_{DR}-V_{SD} Characteristics (Typical)





Safe Operating Area (SOA)





P_T-T_a Characteristics