

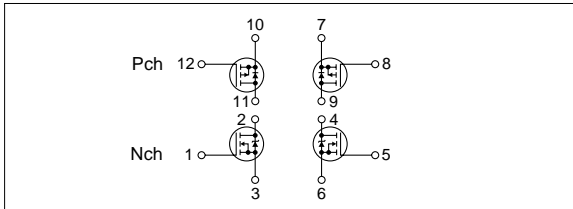
### Absolute maximum ratings

(Ta=25°C)

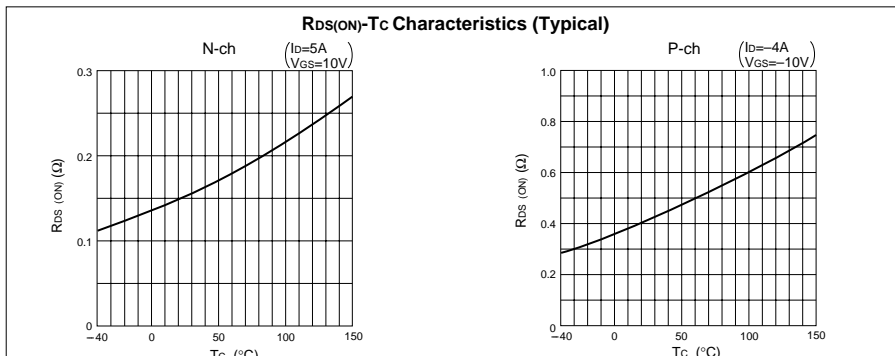
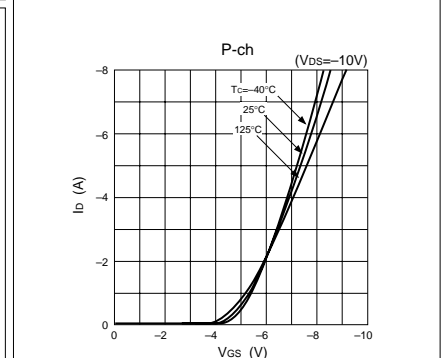
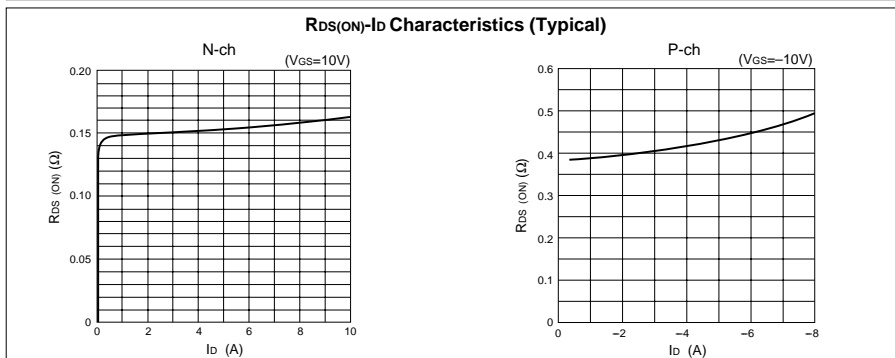
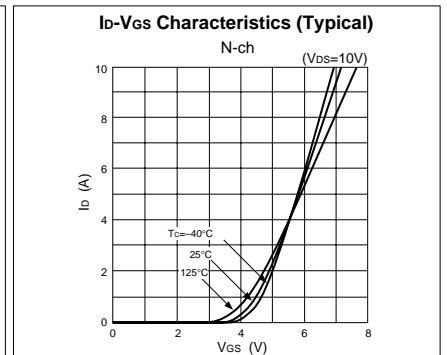
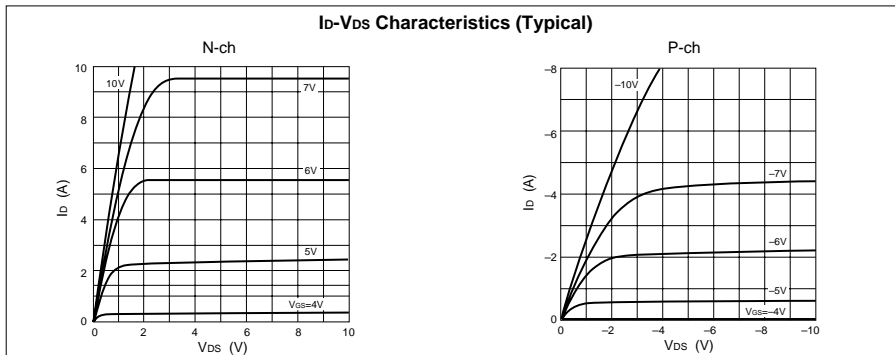
Symbol	Ratings		Unit
	N channel	P channel	
V <sub>DSS</sub>	60	-60	V
V <sub>GSS</sub>	±20	∓20	V
I <sub>D</sub>	±5	∓4	A
I <sub>D(pulse)</sub>	±10 (PW≤1ms)	∓8 (PW≤1ms)	A
E <sub>AS*</sub>	2	—	mJ
P <sub>T</sub>	5 (Ta=25°C, with all circuits operating, without heatsink)		W
	35 (Tc=25°C, with all circuits operating, with infinite heatsink)		W
θ <sub>j-a</sub>	25 (Junction-Air, Ta=25°C, with all circuits operating)		°C/W
θ <sub>j-c</sub>	3.57 (Junction-Case, Tc=25°C, with all circuits operating)		°C/W
V <sub>ISO</sub>	1000 (Between fin and lead pin, AC)		V <sub>rms</sub>
T <sub>ch</sub>	150		°C
T <sub>stg</sub>	-40 to +150		°C

\* : V<sub>DD</sub>=20V, L=1mH, I<sub>D</sub>=2A, unclamped, see Fig. E on page 15.

### Equivalent circuit diagram



### Characteristic curves



## Electrical characteristics

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

Symbol	N channel					P channel				
	Specification			Unit	Conditions	Specification			Unit	Conditions
	min	typ	max			min	typ	max		
$V_{(BR)DSS}$	60			V	$I_D=250\mu\text{A}, V_{GS}=0\text{V}$	-60			V	$I_D=-250\mu\text{A}, V_{GS}=0\text{V}$
$I_{GSS}$			$\pm 500$	nA	$V_{GS}=\pm 20\text{V}$			$\mp 500$	nA	$V_{GS}=\mp 20\text{V}$
$I_{DSS}$			250	$\mu\text{A}$	$V_{DS}=60\text{V}, V_{GS}=0\text{V}$			-250	$\mu\text{A}$	$V_{DS}=-60\text{V}, V_{GS}=0\text{V}$
$V_{TH}$	2.0		4.0	V	$V_{DS}=10\text{V}, I_D=250\mu\text{A}$	-2.0		-4.0	V	$V_{DS}=-10\text{V}, I_D=-250\mu\text{A}$
$Re_{(yfs)}$	2.2	3.3		S	$V_{DS}=10\text{V}, I_D=5\text{A}$	1.6	2.2		S	$V_{DS}=-10\text{V}, I_D=-4\text{A}$
$R_{DS(ON)}$		0.17	0.22	$\Omega$	$V_{GS}=10\text{V}, I_D=5\text{A}$		0.38	0.55	$\Omega$	$V_{GS}=-10\text{V}, I_D=-4\text{A}$
$C_{iss}$		300		pF	$V_{DS}=25\text{V}, f=1.0\text{MHz},$ $V_{GS}=0\text{V}$		270		pF	$V_{DS}=-25\text{V}, f=1.0\text{MHz},$ $V_{GS}=0\text{V}$
$C_{oss}$		160		pF			170		pF	
$t_{on}$		35		ns	$I_D=5\text{A}, V_{DD}\div 30\text{V}, V_{GS}=10\text{V}$		60		ns	$I_D=-4\text{A}, V_{DD}\div -30\text{V}, V_{GS}=10\text{V}$
$t_{off}$		35		ns	see Fig. 3 on page 16.		60		ns	see Fig. 4 on page 16.
$V_{SD}$		1.1	1.5	V	$I_{SD}=5\text{A}, V_{GS}=0\text{V}$		-4.4	-5.5	V	$I_{SD}=-4\text{A}, V_{GS}=0\text{V}$
$t_{rr}$		140		ns	$I_{SD}=\pm 100\text{mA}$		150		ns	$I_{SD}=\mp 100\text{mA}$

## Characteristic curves

