


MITSUBISHI Nch POWER MOSFET

FS2AS-3

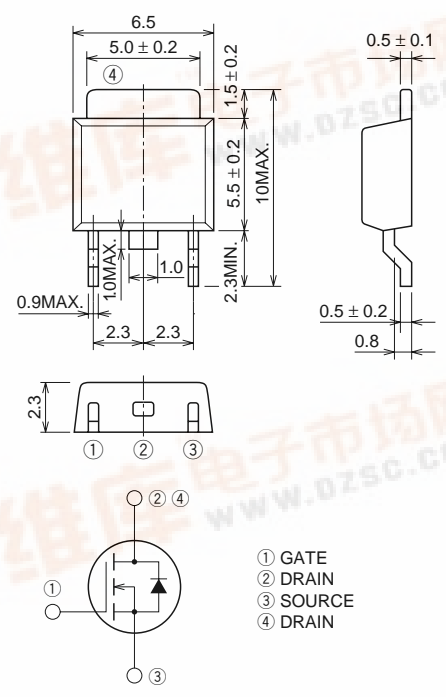
HIGH-SPEED SWITCHING USE

FS2AS-3



- 10V DRIVE
- V_{DSS} 150V
- r_{DS} (ON) (MAX) 0.8Ω
- I_D 2A
- Integrated Fast Recovery Diode (TYP.) 65ns

OUTLINE DRAWING Dimensions in mm



① GATE
② DRAIN
③ SOURCE
④ DRAIN

MP-3

APPLICATION

Motor control, Lamp control, Solenoid control
DC-DC converter, etc.

MAXIMUM RATINGS (T_c = 25°C)

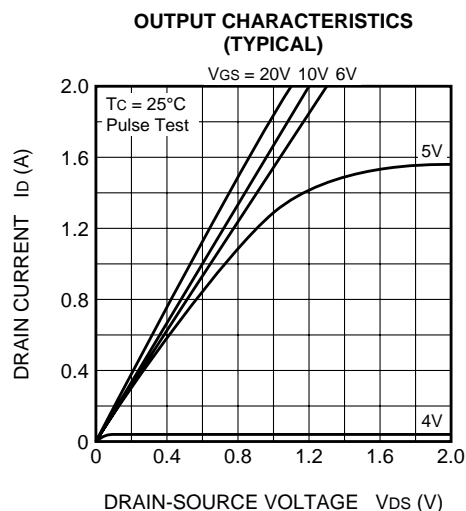
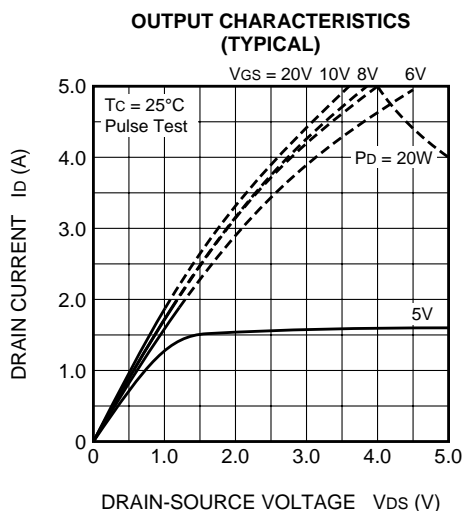
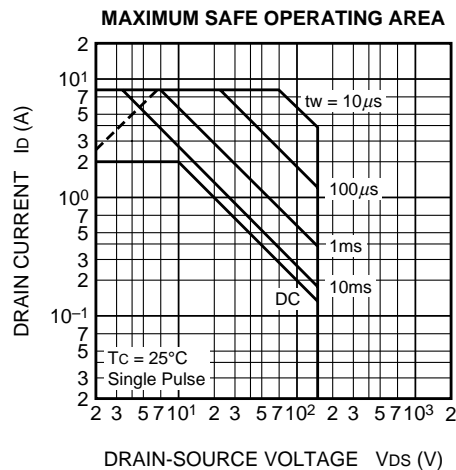
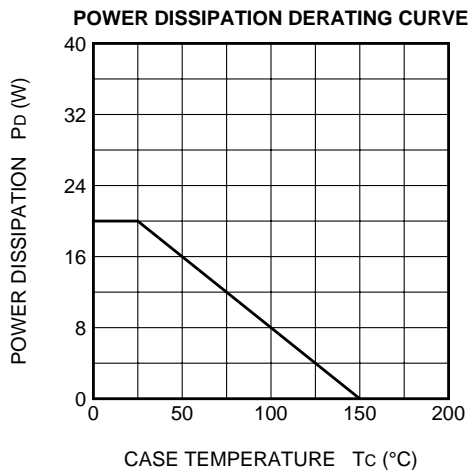
Symbol	Parameter	Conditions	Ratings	Unit
V _{DSS}	Drain-source voltage	V _{GS} = 0V	150	V
V _{GSS}	Gate-source voltage	V _{DS} = 0V	±20	V
I _D	Drain current		2	A
I _{DM}	Drain current (Pulsed)		8	A
I _{DA}	Avalanche drain current (Pulsed)	L = 100μH	2	A
I _S	Source current		2	A
I _{SM}	Source current (Pulsed)		8	A
P _D	Maximum power dissipation		20	W
T _{ch}	Channel temperature		-55 ~ +150	°C
T _{stg}	Storage temperature		-55 ~ +150	°C
—	Weight	Typical value	0.26	g



ELECTRICAL CHARACTERISTICS (Tch = 25°C)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
V(BR)DSS	Drain-source breakdown voltage	ID = 1mA, VGS = 0V	150	—	—	V
IGSS	Gate-source leakage current	VGS = ±20V, VDS = 0V	—	—	±0.1	μA
IDSS	Drain-source leakage current	VDS = 150V, VGS = 0V	—	—	0.1	mA
VGS(th)	Gate-source threshold voltage	ID = 1mA, VDS = 10V	2.0	3.0	4.0	V
rDS(ON)	Drain-source on-state resistance	ID = 1A, VGS = 10V	—	0.59	0.80	Ω
VDS(ON)	Drain-source on-state voltage	ID = 1A, VGS = 10V	—	0.59	0.80	V
yfs	Forward transfer admittance	ID = 1A, VDS = 5V	—	3.0	—	S
Ciss	Input capacitance	Vbs = 10V, VGS = 0V, f = 1MHz	—	280	—	pF
Coss	Output capacitance		—	60	—	pF
Crss	Reverse transfer capacitance		—	14	—	pF
td(on)	Turn-on delay time	VDD = 80V, ID = 1A, VGS = 10V, RGEN = RGS = 50Ω	—	16	—	ns
tr	Rise time		—	8	—	ns
td(off)	Turn-off delay time		—	19	—	ns
tf	Fall time		—	7	—	ns
VSD	Source-drain voltage	IS = 1A, VGS = 0V	—	1.0	1.5	V
Rth(ch-c)	Thermal resistance	Channel to case	—	—	6.25	°C/W
trr	Reverse recovery time	IS = 2A, dis/dt = -100A/μs	—	65	—	ns

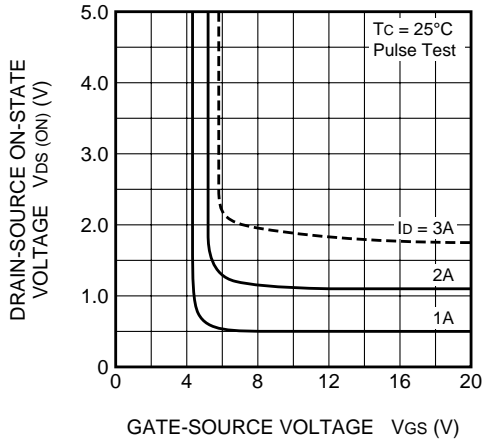
PERFORMANCE CURVES



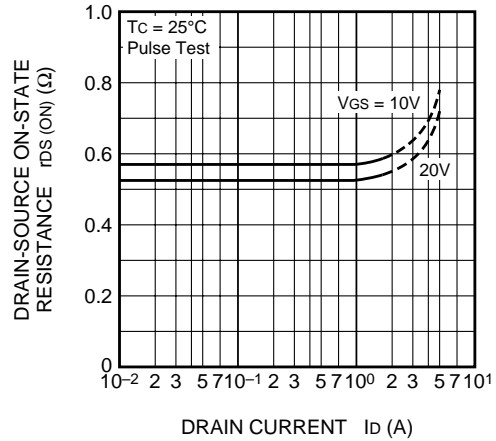
FS2AS-3

HIGH-SPEED SWITCHING USE

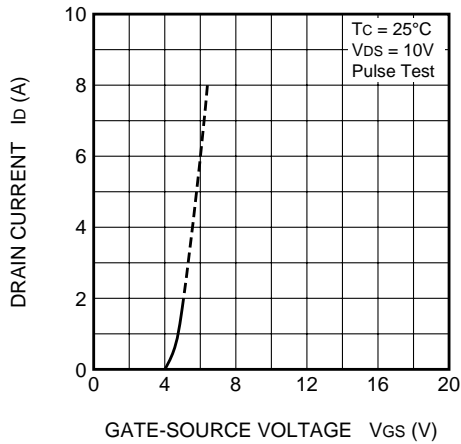
ON-STATE VOLTAGE VS. GATE-SOURCE VOLTAGE (TYPICAL)



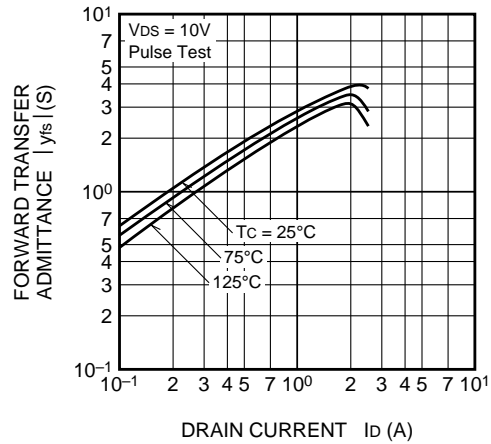
ON-STATE RESISTANCE VS. DRAIN CURRENT (TYPICAL)



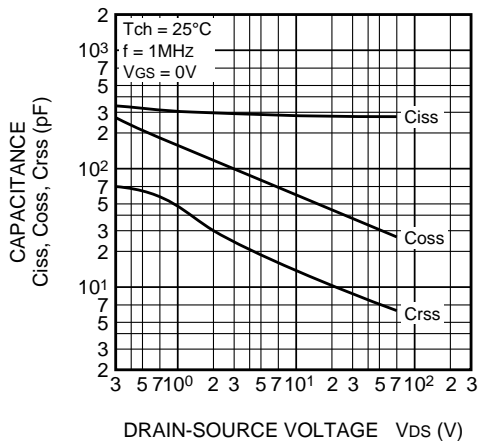
TRANSFER CHARACTERISTICS (TYPICAL)



FORWARD TRANSFER ADMITTANCE VS. DRAIN CURRENT (TYPICAL)



CAPACITANCE VS. DRAIN-SOURCE VOLTAGE (TYPICAL)



SWITCHING CHARACTERISTICS (TYPICAL)

