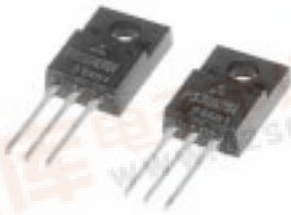


MITSUBISHI Nch POWER MOSFET

FS30KMH-2

HIGH-SPEED SWITCHING USE

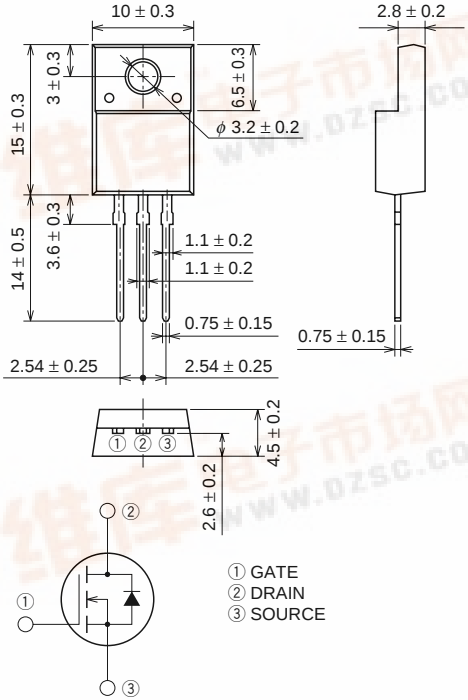
FS30KMH-2



- 2.5V DRIVE
- V_{DSS} 100V
- r_{DS} (ON) (MAX) 93mΩ
- I_D 30A
- Integrated Fast Recovery Diode (TYP.) 95ns
- V_{iso} 2000V

OUTLINE DRAWING

Dimensions in mm



TO-220FN

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	100	V
V _{GSS}	Gate-source voltage	V _{DS} = 0V	±10	V
I _D	Drain current		30	A
I _{DM}	Drain current (Pulsed)		120	A
I _{DA}	Avalanche drain current (Pulsed)	L = 100μH	30	A
I _S	Source current		30	A
I _{SM}	Source current (Pulsed)		120	A
P _D	Maximum power dissipation		25	W
T _{ch}	Channel temperature		-55 ~ +150	°C
T _{stg}	Storage temperature		-55 ~ +150	°C
V _{iso}	Isolation voltage	AC for 1minute, Terminal to case	2000	V
—	Weight	Typical value	2.0	g

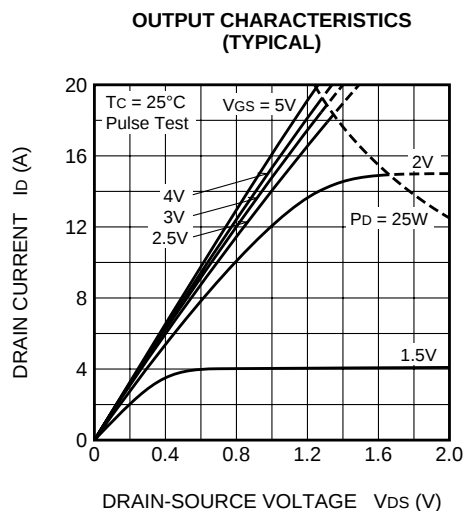
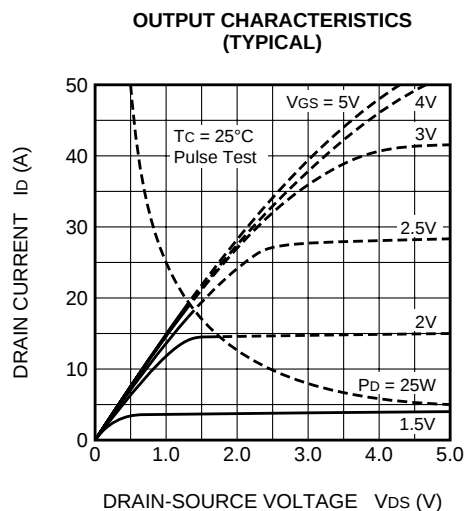
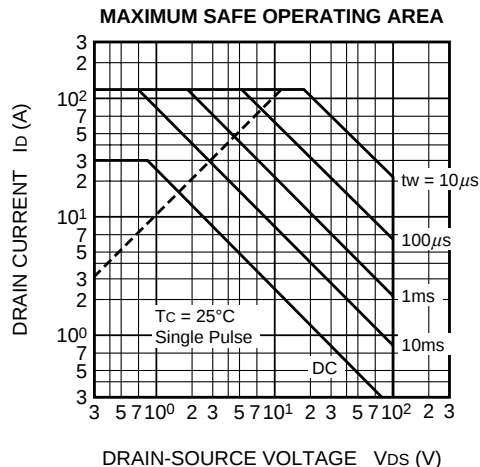
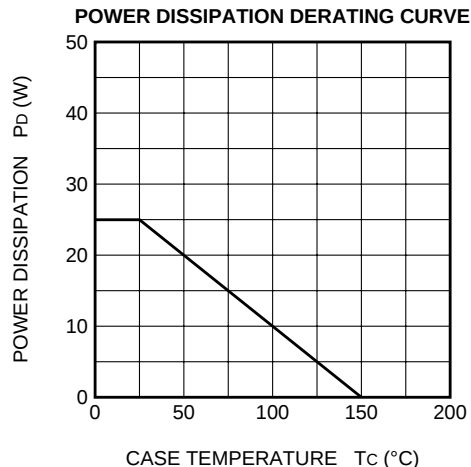
FS30KMH-2

HIGH-SPEED SWITCHING USE

ELECTRICAL CHARACTERISTICS (Tch = 25°C)

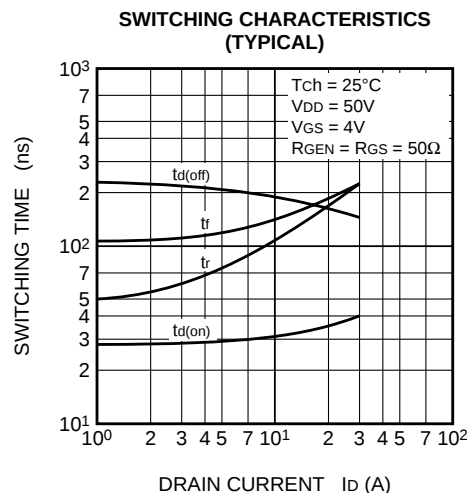
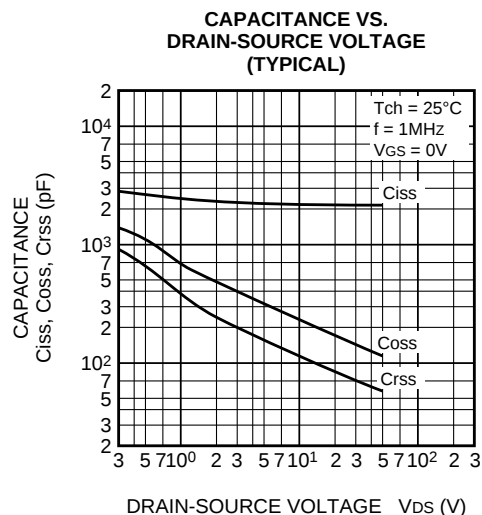
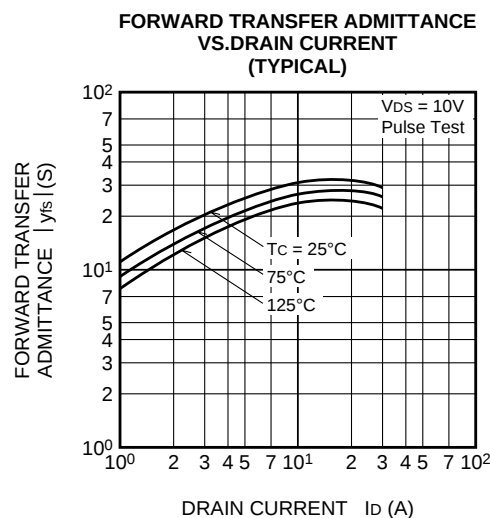
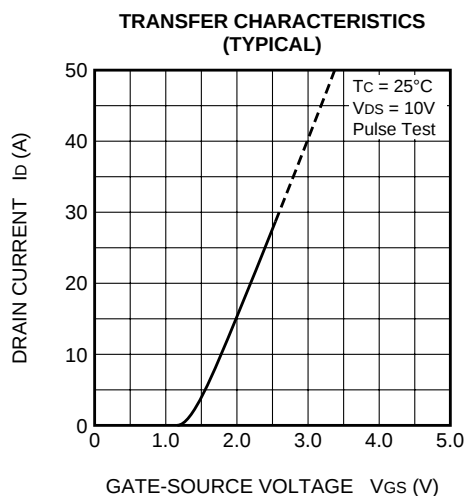
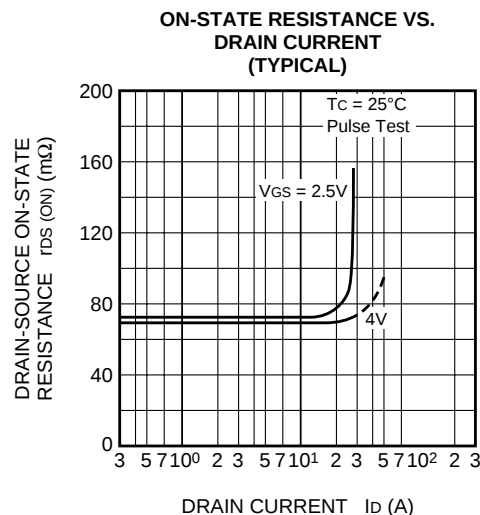
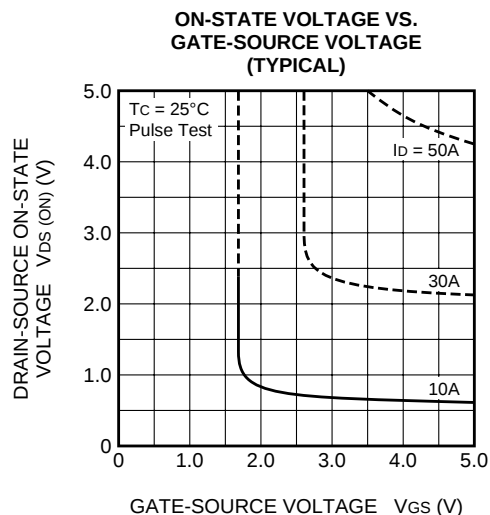
Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
V(BR)DSS	Drain-source breakdown voltage	Id = 1mA, Vgs = 0V	100	—	—	V
IGSS	Gate-source leakage current	Vgs = ±10V, Vds = 0V	—	—	±0.1	μA
IDSS	Drain-source leakage current	Vds = 100V, Vgs = 0V	—	—	0.1	mA
VGS(th)	Gate-source threshold voltage	Id = 1mA, Vds = 10V	0.6	0.9	1.2	V
rDS(ON)	Drain-source on-state resistance	Id = 15A, Vgs = 4V	—	66	93	mΩ
rDS(ON)	Drain-source on-state resistance	Id = 15A, Vgs = 2.5V	—	69	97	mΩ
VDS(ON)	Drain-source on-state voltage	Id = 15A, Vgs = 4V	—	0.99	1.40	V
yfs	Forward transfer admittance	Id = 15A, Vds = 10V	—	31	—	S
Ciss	Input capacitance	Vds = 10V, Vgs = 0V, f = 1MHz	—	2000	—	pF
Coss	Output capacitance		—	230	—	pF
Crss	Reverse transfer capacitance		—	120	—	pF
td(on)	Turn-on delay time	VDD = 50V, Id = 15A, Vgs = 4V, RGEN = RGS = 50Ω	—	33	—	ns
tr	Rise time		—	135	—	ns
td(off)	Turn-off delay time		—	170	—	ns
tf	Fall time		—	170	—	ns
VSD	Source-drain voltage	Is = 15A, Vgs = 0V	—	1.0	1.5	V
Rth(ch-c)	Thermal resistance	Channel to case	—	—	5.00	°C/W
trr	Reverse recovery time	Is = 30A, dis/dt = -100A/μs	—	95	—	ns

PERFORMANCE CURVES



FS30KMH-2

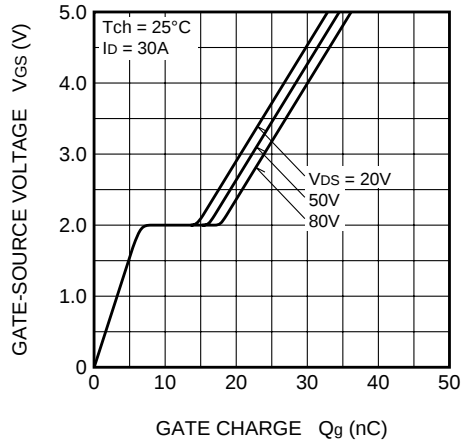
HIGH-SPEED SWITCHING USE



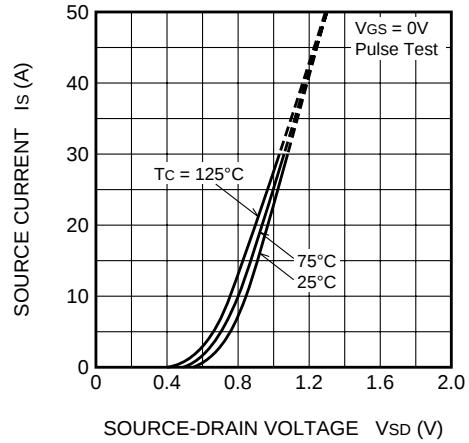
FS30KMH-2

HIGH-SPEED SWITCHING USE

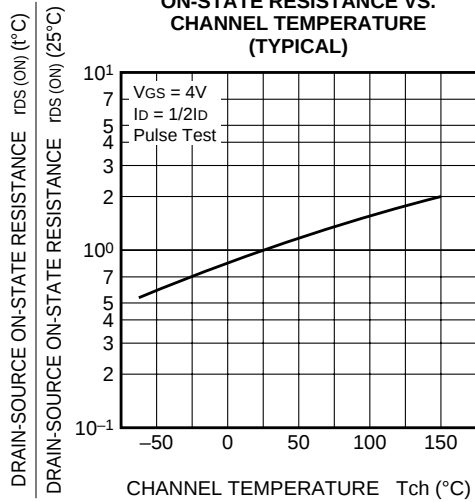
**GATE-SOURCE VOLTAGE
VS. GATE CHARGE
(TYPICAL)**



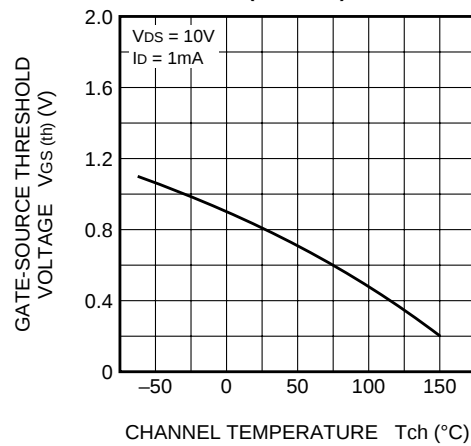
**SOURCE-DRAIN DIODE
FORWARD CHARACTERISTICS
(TYPICAL)**



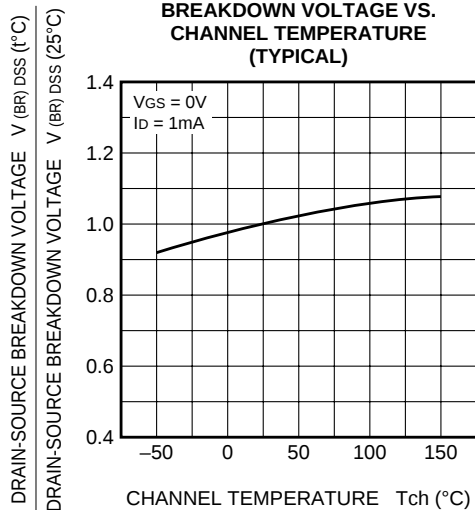
**ON-STATE RESISTANCE VS.
CHANNEL TEMPERATURE
(TYPICAL)**



**THRESHOLD VOLTAGE VS.
CHANNEL TEMPERATURE
(TYPICAL)**



**BREAKDOWN VOLTAGE VS.
CHANNEL TEMPERATURE
(TYPICAL)**



**TRANSIENT THERMAL IMPEDANCE
CHARACTERISTICS**

