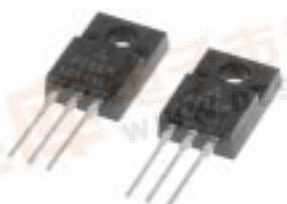


MITSUBISHI Nch POWER MOSFET

FS5KM-14A

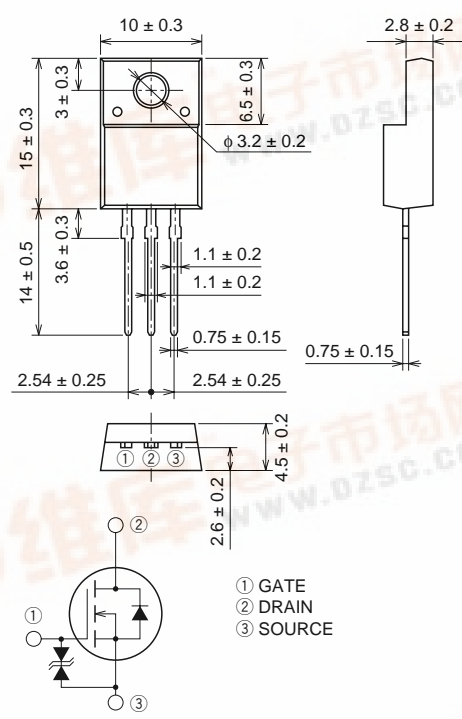
HIGH-SPEED SWITCHING USE

FS5KM-14A



- V_{DSS} 700V
- r_{DS} (ON) (MAX) 2.6Ω
- I_D 5A
- V_{iso} 2000V

OUTLINE DRAWING Dimensions in mm



① GATE
② DRAIN
③ SOURCE

TO-220FN

APPLICATION

SMPS, DC-DC Converter, battery charger, power supply of printer, copier, HDD, FDD, TV, VCR, personal computer etc.

MAXIMUM RATINGS (T_c = 25°C)

Symbol	Parameter	Conditions	Ratings	Unit
V _{DSS}	Drain-source voltage	V _{GS} = 0V	700	V
V _{GSS}	Gate-source voltage	V _{DS} = 0V	±30	V
I _D	Drain current		5	A
I _{DM}	Drain current (Pulsed)		15	A
P _D	Maximum power dissipation		30	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 _{rms}
—	Weight	Typical value	2	g

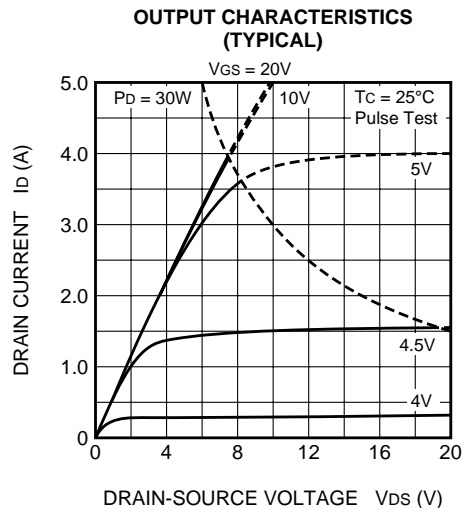
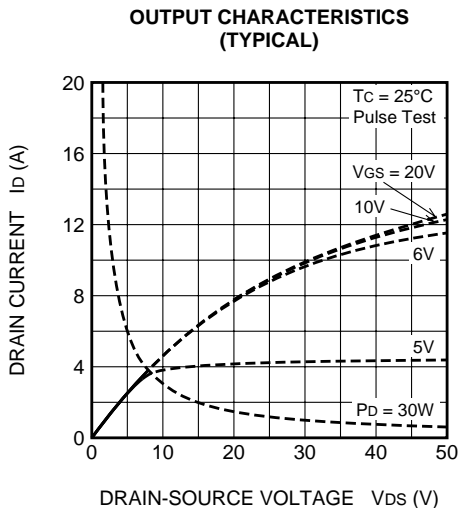
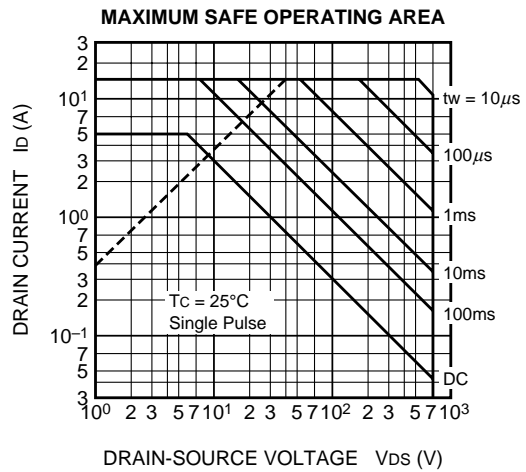
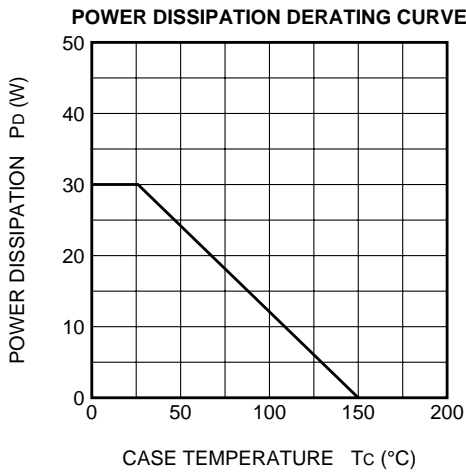
FS5KM-14A

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	700	—	—	V
V(BR)GSS	Gate-source breakdown voltage	IGS = ±100μA, VDS = 0V	±30	—	—	V
IGSS	Gate-source leakage current	VGS = ±25V, VDS = 0V	—	—	±10	μA
IDSS	Drain-source leakage current	VDS = 700V, VGS = 0V	—	—	1	mA
VGS(th)	Gate-source threshold voltage	Id = 1mA, VDS = 10V	2	3	4	V
rDS(ON)	Drain-source on-state resistance	Id = 2A, VGS = 10V	—	2.0	2.6	Ω
VDS(ON)	Drain-source on-state voltage	Id = 2A, VGS = 10V	—	4.0	5.2	V
yfs	Forward transfer admittance	Id = 2A, VDS = 10V	2.5	4.2	—	S
Ciss	Input capacitance	VDS = 25V, VGS = 0V, f = 1MHz	—	770	—	pF
Coss	Output capacitance		—	88	—	pF
Crss	Reverse transfer capacitance		—	16	—	pF
td(on)	Turn-on delay time	VDD = 200V, Id = 2A, VGS = 10V, RGEN = RGS = 50Ω	—	15	—	ns
tr	Rise time		—	18	—	ns
td(off)	Turn-off delay time		—	90	—	ns
tf	Fall time		—	25	—	ns
VSD	Source-drain voltage		IS = 2A, VGS = 0V	—	1.0	1.5
Rth(ch-c)	Thermal resistance	Channel to case	—	—	4.17	°C/W

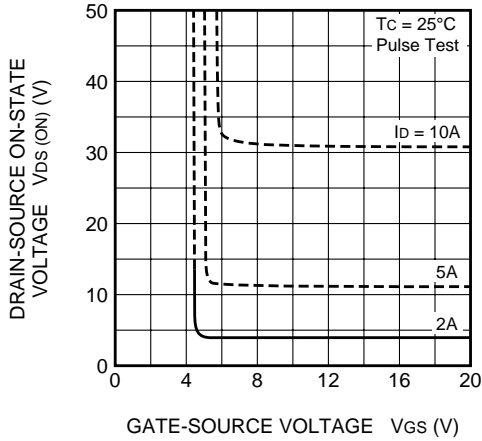
PERFORMANCE CURVES



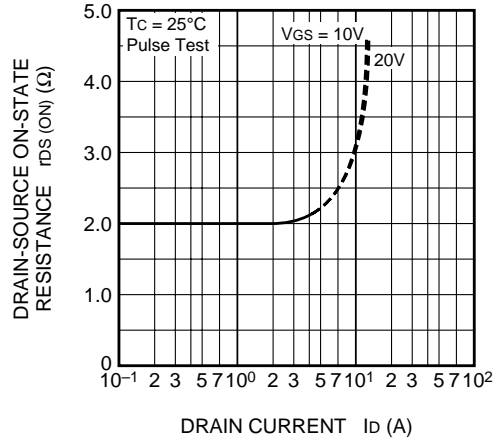
FS5KM-14A

HIGH-SPEED SWITCHING USE

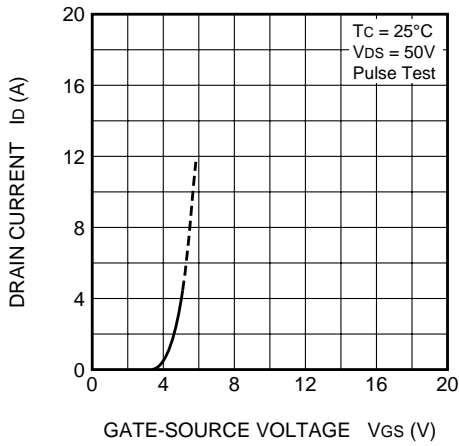
ON-STATE VOLTAGE VS. GATE-SOURCE VOLTAGE (TYPICAL)



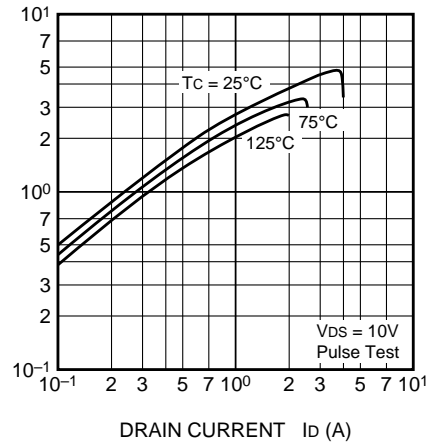
ON-STATE RESISTANCE VS. DRAIN CURRENT (TYPICAL)



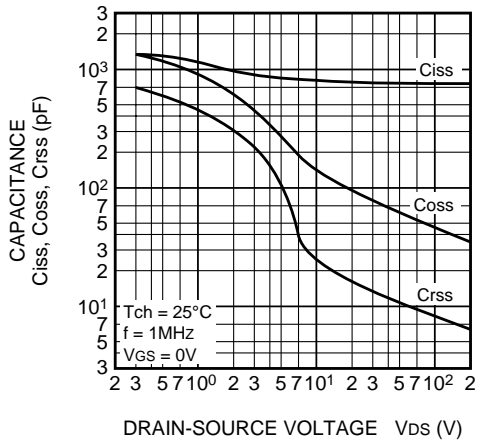
TRANSFER CHARACTERISTICS (TYPICAL)



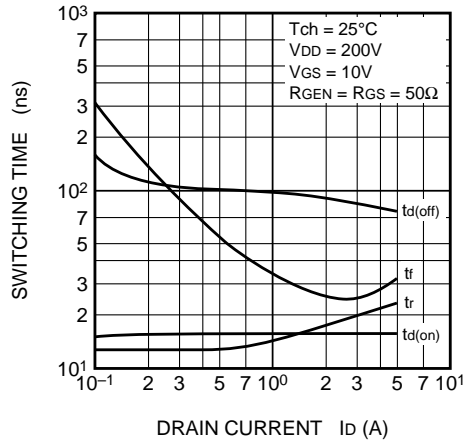
FORWARD TRANSFER ADMITTANCE VS. DRAIN CURRENT (TYPICAL)



CAPACITANCE VS. DRAIN-SOURCE VOLTAGE (TYPICAL)



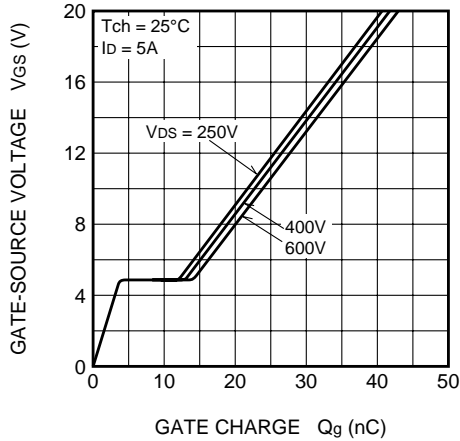
SWITCHING CHARACTERISTICS (TYPICAL)



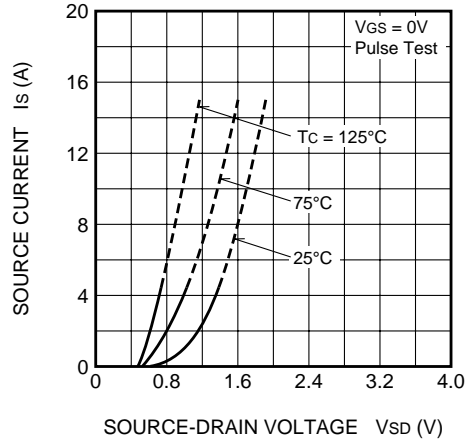
FS5KM-14A

HIGH-SPEED SWITCHING USE

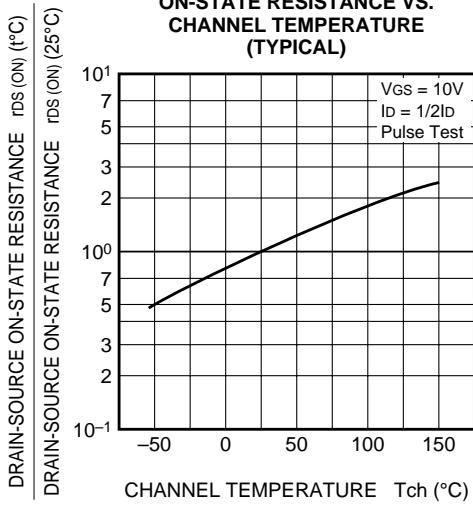
GATE-SOURCE VOLTAGE VS. GATE CHARGE (TYPICAL)



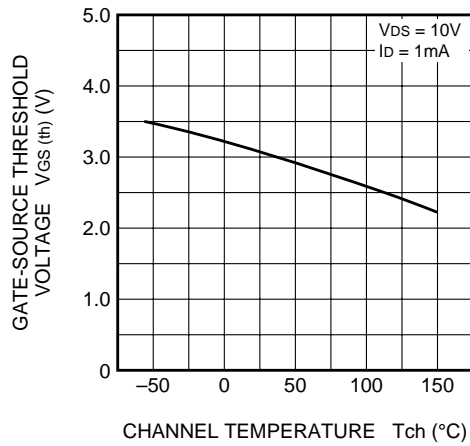
SOURCE-DRAIN DIODE FORWARD CHARACTERISTICS (TYPICAL)



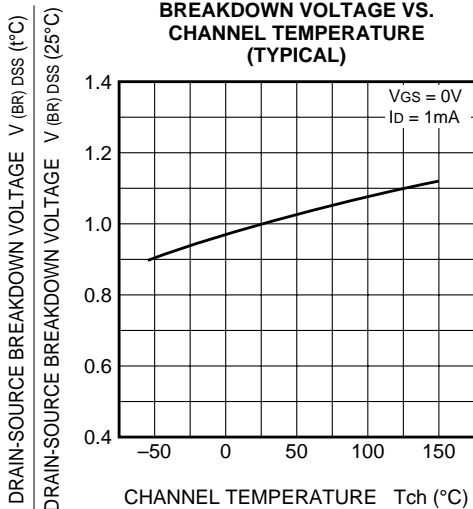
ON-STATE RESISTANCE VS. CHANNEL TEMPERATURE (TYPICAL)



THRESHOLD VOLTAGE VS. CHANNEL TEMPERATURE (TYPICAL)



BREAKDOWN VOLTAGE VS. CHANNEL TEMPERATURE (TYPICAL)



TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS

