

FS5KM-6

HIGH-SPEED SWITCHING USE

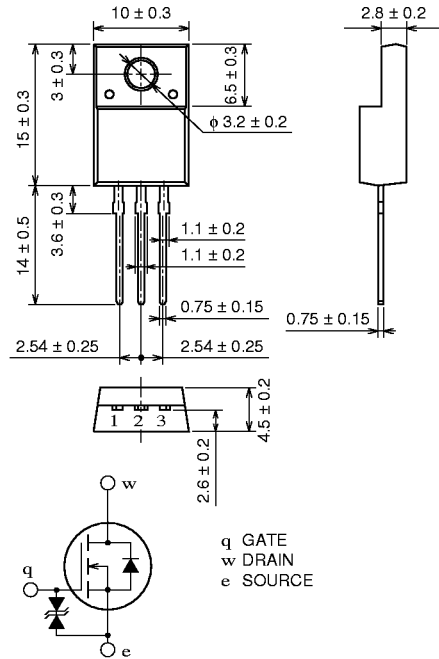
FS5KM-6



• V _{DSS}	300V
• r _{DS (ON)} (MAX)	1.6Ω
• I _D	5A
• V _{iso}	2000V

OUTLINE DRAWING

Dimensions in mm



TO-220FN

APPLICATION

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

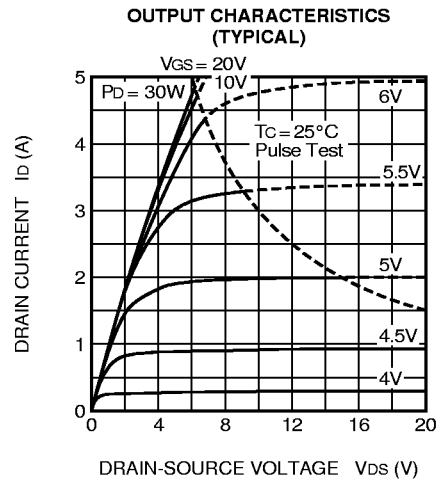
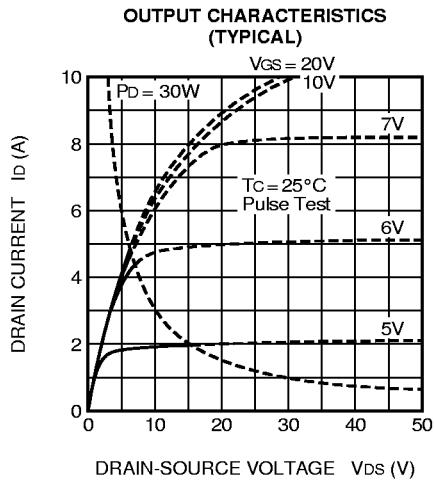
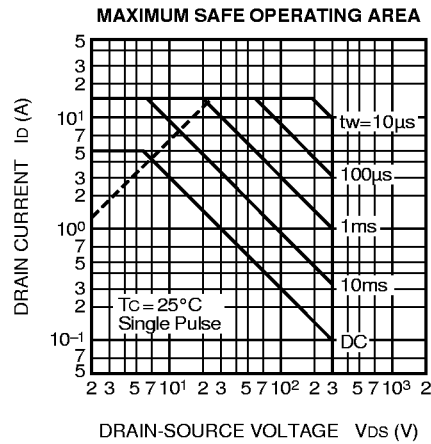
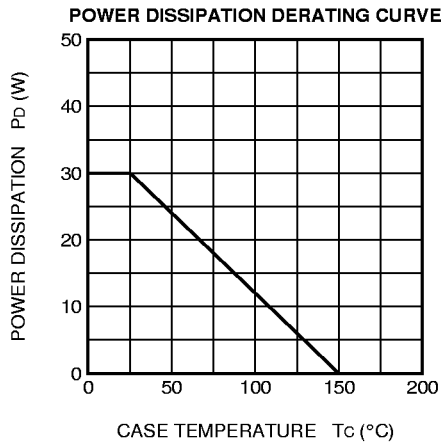
MAXIMUM RATINGS (T_c = 25°C)

Symbol	Parameter	Conditions	Ratings	Unit
V _{DSS}	Drain-source voltage	V _{GS} = 0V	300	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	2.0	g

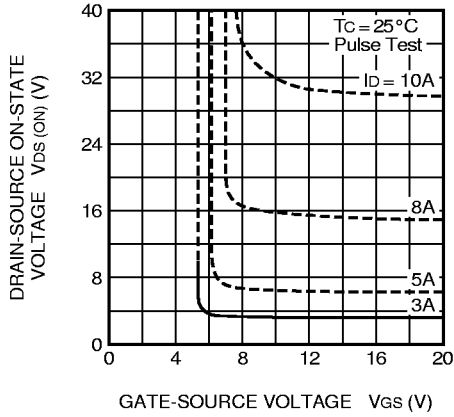
ELECTRICAL CHARACTERISTICS (T_{ch} = 25°C)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
V _{(BR) DSS}	Drain-source breakdown voltage	I _D = 1 mA, V _{GS} = 0 V	300	—	—	V
V _{(BR) GSS}	Gate-source breakdown voltage	I _G = ±100 μA, V _{DS} = 0 V	±30	—	—	V
I _{GSS}	Gate-source leakage current	V _{GS} = ±25 V, V _{DS} = 0 V	—	—	±10	μA
I _{DSS}	Drain-source leakage current	V _{DS} = 300 V, V _{GS} = 0 V	—	—	1	mA
V _{GS} (th)	Gate-source threshold voltage	I _D = 1 mA, V _{DS} = 10 V	2	3	4	V
r _{DS} (ON)	Drain-source on-state resistance	I _D = 2 A, V _{GS} = 10 V	—	1.2	1.6	Ω
V _{DS} (ON)	Drain-source on-state voltage	I _D = 2 A, V _{GS} = 10 V	—	2.4	3.2	V
y _{fs}	Forward transfer admittance	I _D = 2 A, V _{DS} = 10 V	1.6	2.5	—	S
C _{iss}	Input capacitance	V _{DS} = 25 V, V _{GS} = 0 V, f = 1 MHz	—	270	—	pF
C _{oss}	Output capacitance		—	55	—	pF
C _{rss}	Reverse transfer capacitance		—	10	—	pF
t _d (on)	Turn-on delay time	V _{DD} = 150 V, I _D = 2 A, V _{GS} = 10 V, R _{GEN} = R _{GS} = 50 Ω	—	11	—	ns
t _r	Rise time		—	13	—	ns
t _d (off)	Turn-off delay time		—	32	—	ns
t _f	Fall time		—	22	—	ns
V _{SD}	Source-drain voltage	I _S = 2 A, V _{GS} = 0 V	—	1.5	2.0	V
R _{th} (ch-c)	Thermal resistance	Channel to case	—	—	4.17	°C/W

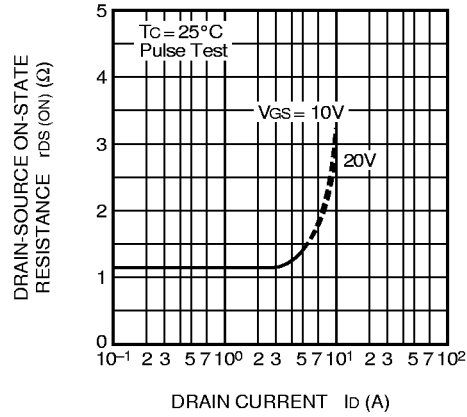
PERFORMANCE CURVES



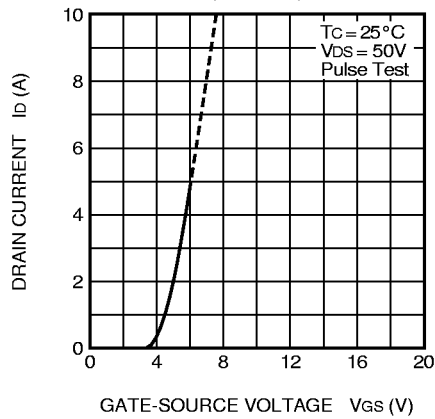
ON-STATE VOLTAGE VS.
GATE-SOURCE VOLTAGE
(TYPICAL)



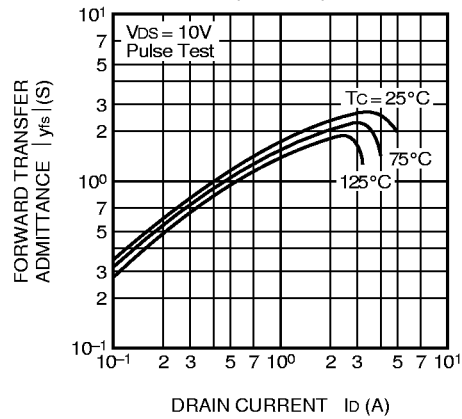
ON-STATE RESISTANCE VS.
DRAIN CURRENT
(TYPICAL)



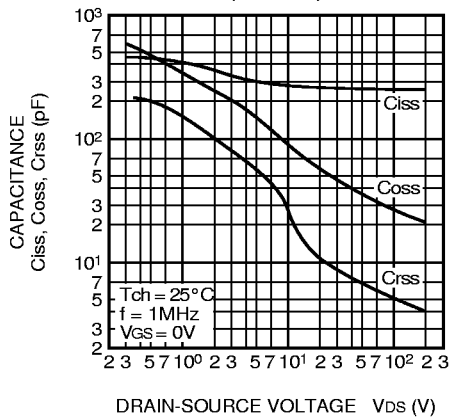
TRANSFER CHARACTERISTICS
(TYPICAL)



FORWARD TRANSFER ADMITTANCE
VS. DRAIN CURRENT
(TYPICAL)



CAPACITANCE VS.
DRAIN-SOURCE VOLTAGE
(TYPICAL)



SWITCHING CHARACTERISTICS
(TYPICAL)

