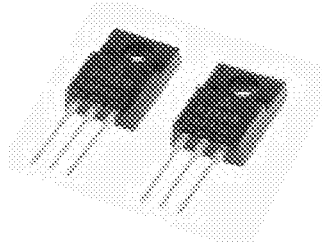


FS5KM-14A

HIGH-SPEED SWITCHING USE

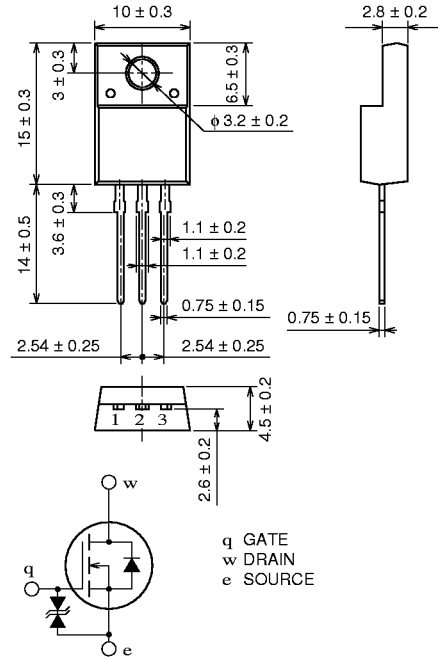
FS5KM-14A



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

OUTLINE DRAWING

Dimensions in mm



APPLICATION

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

MAXIMUM RATINGS ($T_c = 25^\circ\text{C}$)

Symbol	Parameter	Conditions	Ratings	Unit
V_{DS}	Drain-source voltage	$V_{GS} = 0V$	700	V
V_{GS}	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		$-55 \sim +150$	$^\circ\text{C}$
T_{stg}	Storage temperature		$-55 \sim +150$	$^\circ\text{C}$
V_{iso}	Isolation voltage	AC for 1 minute, Terminal to case	2000	V_{rms}
—	Weight	Typical value	2	g

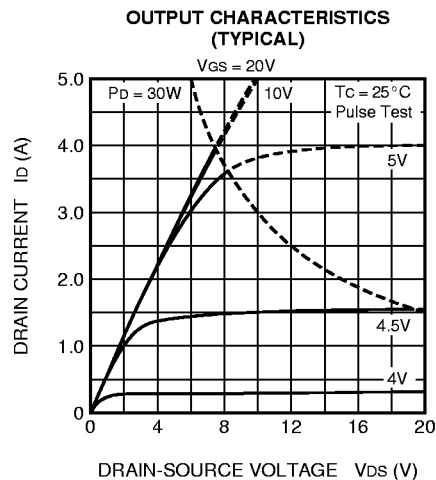
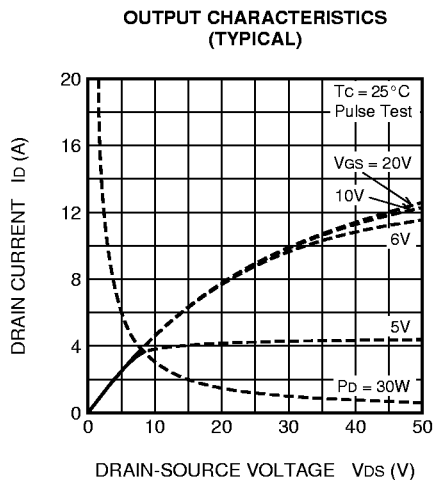
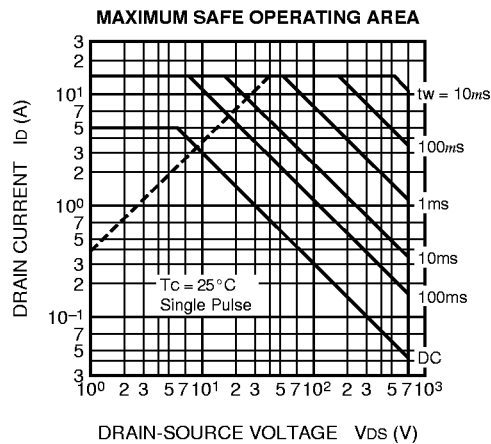
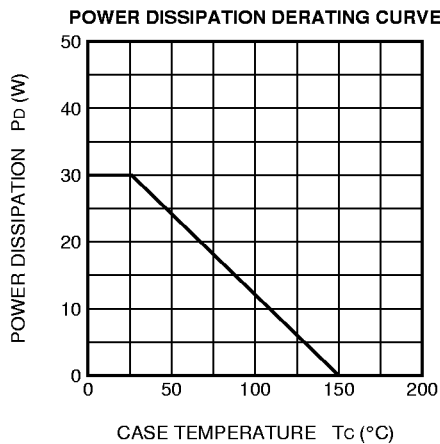
FS5KM-14A

HIGH-SPEED SWITCHING USE

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

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
V _{(BR)DSS}	Drain-source breakdown voltage	I _D = 1mA, V _{GS} = 0V	700	—	—	V
V _{(BR)GSS}	Gate-source breakdown voltage	I _{GS} = ±100μA, V _{DS} = 0V	±30	—	—	V
I _{GSS}	Gate-source leakage current	V _{GS} = ±25V, V _{DS} = 0V	—	—	±10	μA
I _{DSS}	Drain-source leakage current	V _{DS} = 700V, V _{GS} = 0V	—	—	1	mA
V _{GS(th)}	Gate-source threshold voltage	I _D = 1mA, V _{DS} = 10V	2	3	4	V
r _{DS(ON)}	Drain-source on-state resistance	I _D = 2A, V _{GS} = 10V	—	2.0	2.6	Ω
V _{DS(ON)}	Drain-source on-state voltage	I _D = 2A, V _{GS} = 10V	—	4.0	5.2	V
y _{fs}	Forward transfer admittance	I _D = 2A, V _{DS} = 10V	2.5	4.2	—	S
C _{iss}	Input capacitance	V _{DS} = 25V, V _{GS} = 0V, f = 1MHz	—	770	—	pF
C _{oss}	Output capacitance		—	88	—	pF
C _{rss}	Reverse transfer capacitance		—	16	—	pF
t _{d(on)}	Turn-on delay time	V _{DD} = 200V, I _D = 2A, V _{GS} = 10V, R _{GEN} = R _{GS} = 50Ω	—	15	—	ns
t _r	Rise time		—	18	—	ns
t _{d(off)}	Turn-off delay time		—	90	—	ns
t _f	Fall time		—	25	—	ns
V _{SD}	Source-drain voltage	I _S = 2A, V _{GS} = 0V	—	1.0	1.5	V
R _{th(ch-c)}	Thermal resistance	Channel to case	—	—	4.17	°C/W

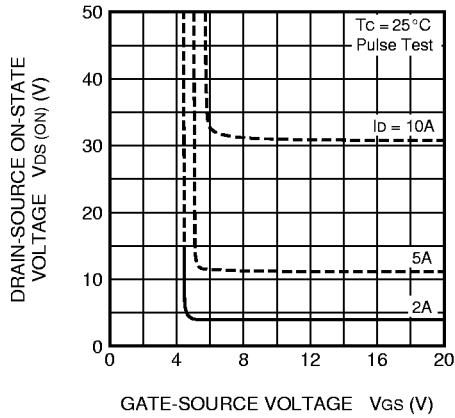
PERFORMANCE CURVES



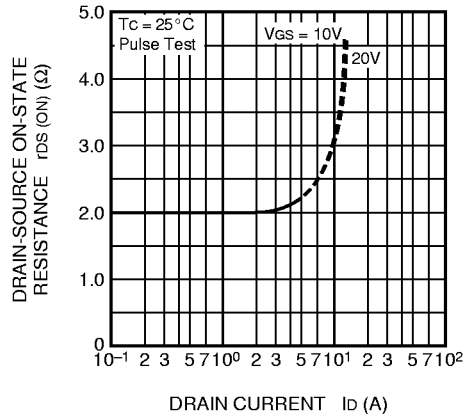
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HIGH-SPEED SWITCHING USE

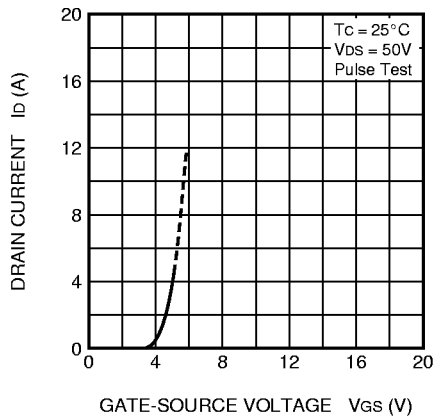
ON-STATE VOLTAGE VS.
GATE-SOURCE VOLTAGE
(TYPICAL)



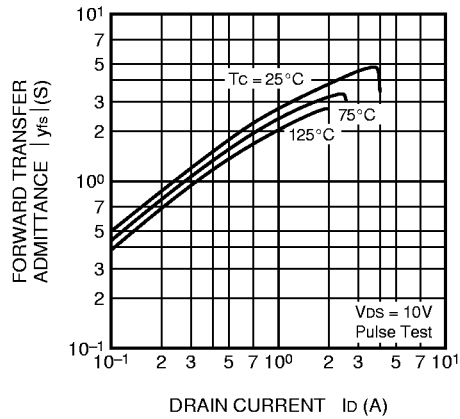
ON-STATE RESISTANCE VS.
DRAIN CURRENT
(TYPICAL)



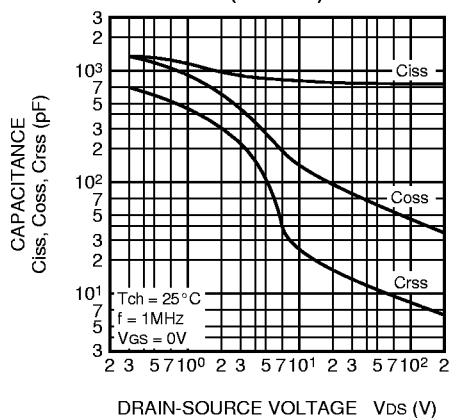
TRANSFER CHARACTERISTICS
(TYPICAL)



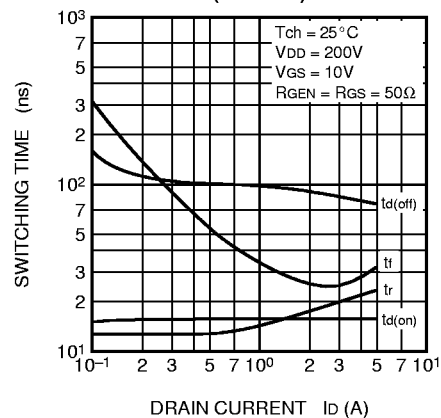
FORWARD TRANSFER ADMITTANCE
VS.DRAIN CURRENT
(TYPICAL)



CAPACITANCE VS.
DRAIN-SOURCE VOLTAGE
(TYPICAL)



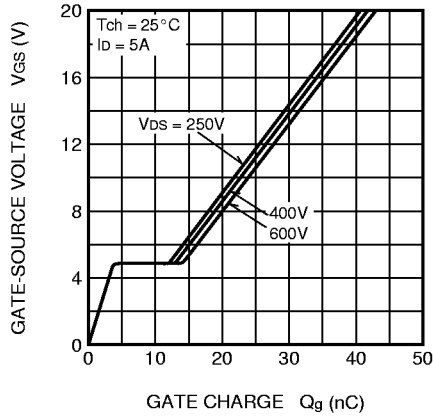
SWITCHING CHARACTERISTICS
(TYPICAL)



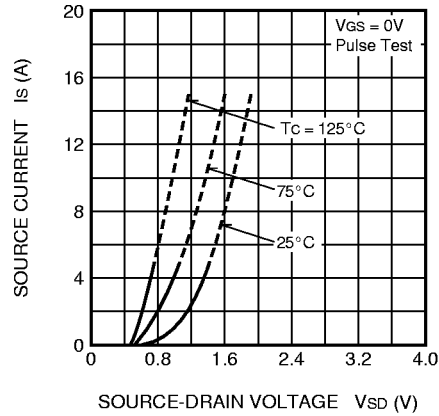
FS5KM-14A

HIGH-SPEED SWITCHING USE

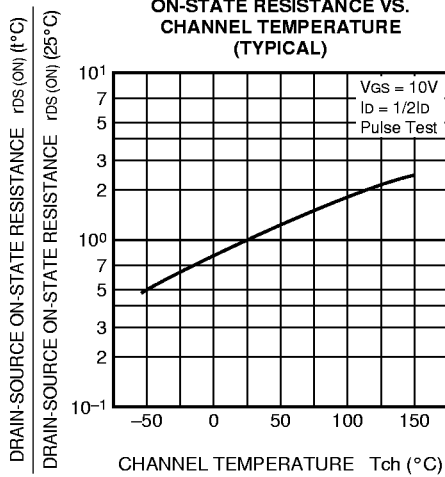
**GATE-SOURCE VOLTAGE
VS. GATE CHARGE
(TYPICAL)**



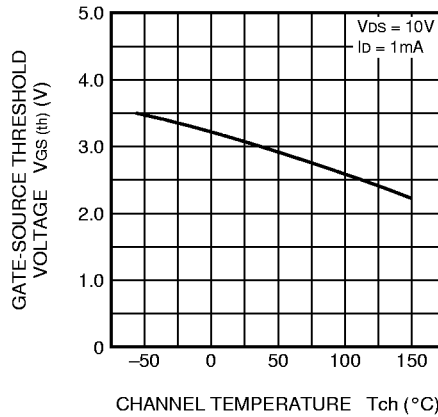
**SOURCE-DRAIN DIODE
FORWARD CHARACTERISTICS
(TYPICAL)**



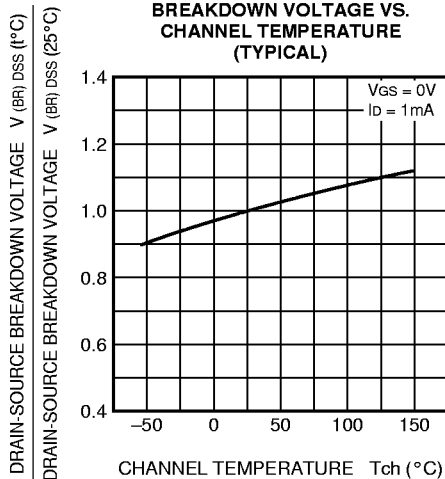
**ON-STATE RESISTANCE VS.
CHANNEL TEMPERATURE
(TYPICAL)**



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



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



**TRANSIENT THERMAL IMPEDANCE
CHARACTERISTICS**

