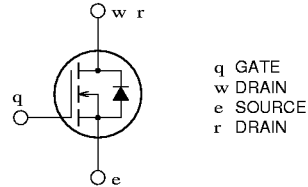


FS30UMJ-03

FS30UMJ-03



- ## OUTLINE DRAWING



Symbol	Parameter	Conditions	Ratings	Unit
V _{DSS}	Drain-source voltage	V _{GS} = 0V	30	V
V _{GSS}	Gate-source voltage	V _{DS} = 0V	±20	V
I _D	Drain current		30	A
I _{DM}	Drain current (Pulsed)		120	A
I _{DA}	Avalanche drain current (Pulsed)	L = 30μH	30	A
I _S	Source current		30	A
I _{SM}	Source current (Pulsed)		120	A
P _D	Maximum power dissipation		30	W
T _{ch}	Channel temperature		-55 ~ +150	°C
T _{stg}	Storage temperature		-55 ~ +150	°C
—	Weight	Typical value	2.0	g

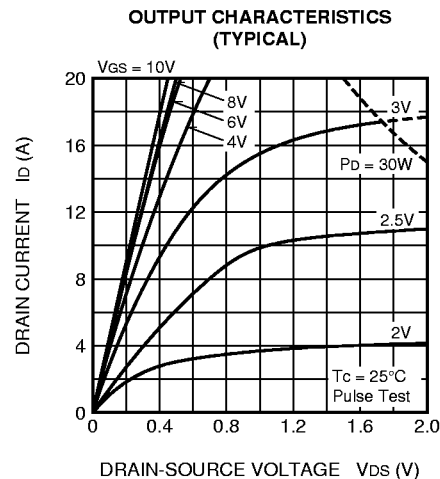
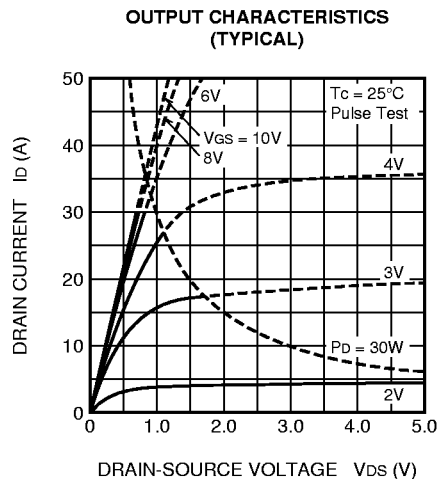
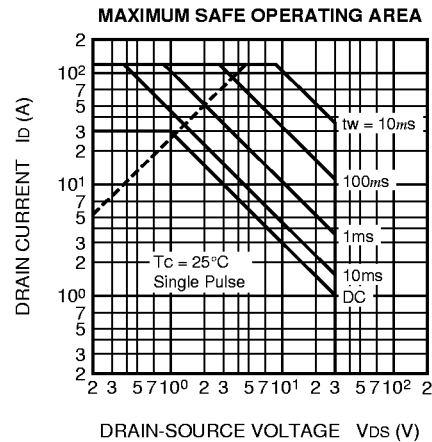
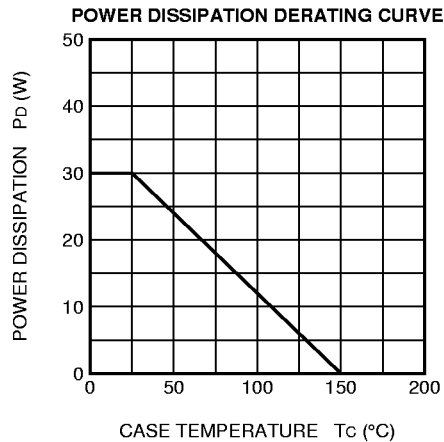
FS30UMJ-03

HIGH-SPEED SWITCHING USE

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

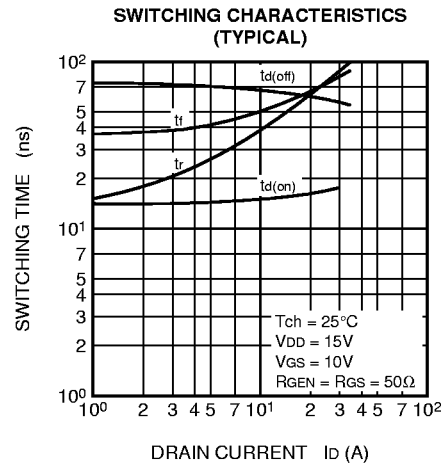
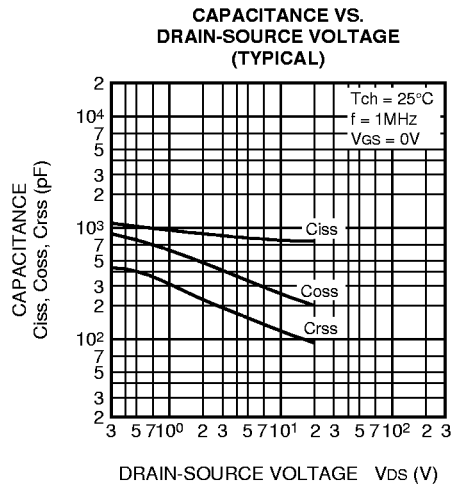
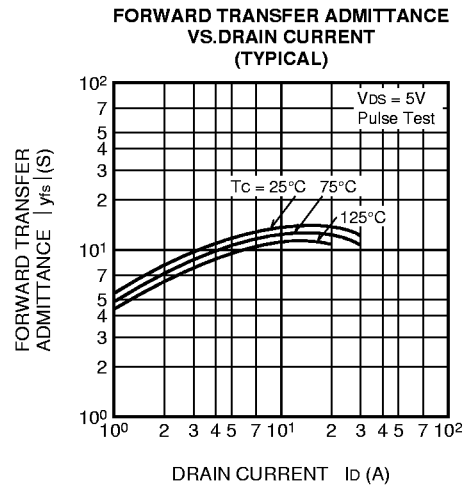
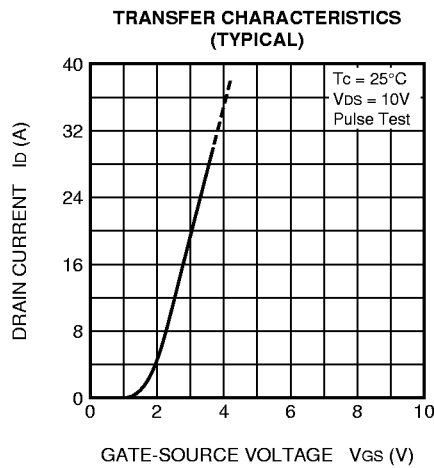
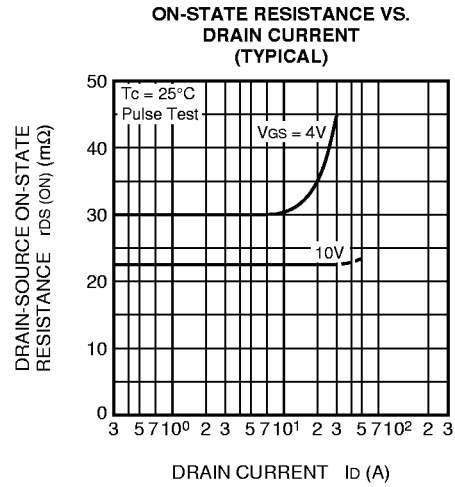
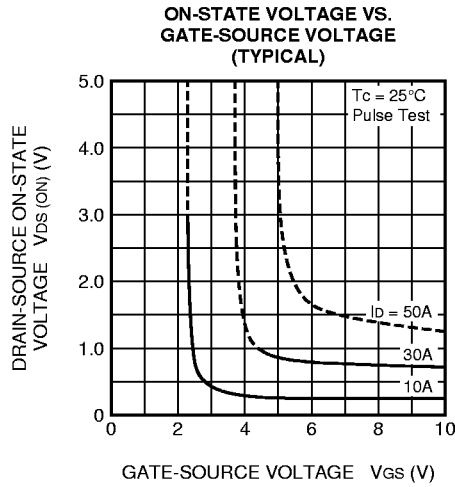
Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
V _{(BR)DSS}	Drain-source breakdown voltage	I _D = 1mA, V _{GS} = 0V	30	—	—	V
I _{GSS}	Gate-source leakage current	V _{GS} = ±20V, V _{DS} = 0V	—	—	±0.1	μA
I _{DSS}	Drain-source leakage current	V _{DS} = 30V, V _{GS} = 0V	—	—	0.1	mA
V _{GS(th)}	Gate-source threshold voltage	I _D = 1mA, V _{DS} = 10V	1.0	1.5	2.0	V
r _{DS(ON)}	Drain-source on-state resistance	I _D = 15A, V _{GS} = 10V	—	29	38	mΩ
r _{DS(ON)}	Drain-source on-state resistance	I _D = 15A, V _{GS} = 4V	—	44	73	mΩ
V _{DS(ON)}	Drain-source on-state voltage	I _D = 15A, V _{GS} = 10V	—	0.435	0.57	V
y _{fs}	Forward transfer admittance	I _D = 15A, V _{DS} = 5V	—	15	—	S
C _{iss}	Input capacitance	V _{DS} = 10V, V _{GS} = 0V, f = 1MHz	—	800	—	pF
C _{oss}	Output capacitance		—	250	—	pF
C _{rss}	Reverse transfer capacitance		—	110	—	pF
t _{d(on)}	Turn-on delay time	V _{DD} = 15V, I _D = 15A, V _{GS} = 10V, R _{GEN} = R _{GS} = 50Ω	—	14	—	ns
t _r	Rise time		—	55	—	ns
t _{d(off)}	Turn-off delay time		—	65	—	ns
t _f	Fall time		—	60	—	ns
V _{SD}	Source-drain voltage	I _S = 15A, V _{GS} = 0V	—	1.0	1.5	V
R _{th(ch-c)}	Thermal resistance	Channel to case	—	—	4.17	°C/W
t _{rr}	Reverse recovery time	I _S = 15A, di/dt = -50A/μs	—	45	—	ns

PERFORMANCE CURVES



FS30UMJ-03

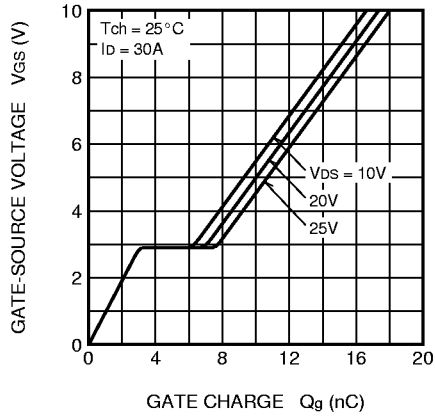
HIGH-SPEED SWITCHING USE



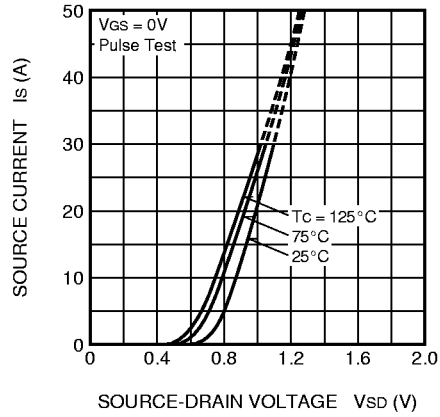
FS30UMJ-03

HIGH-SPEED SWITCHING USE

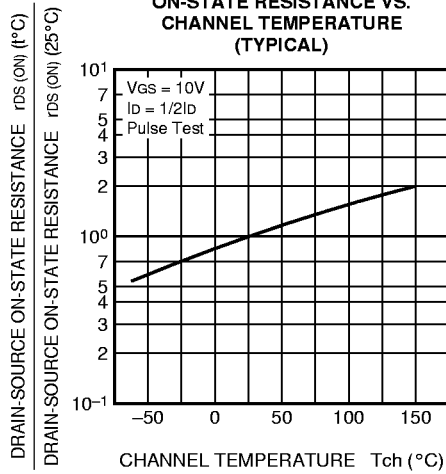
**GATE-SOURCE VOLTAGE
VS. GATE CHARGE
(TYPICAL)**



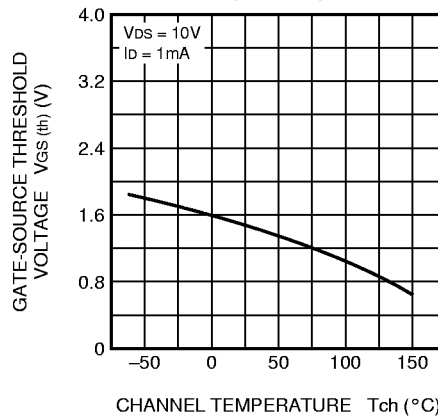
**SOURCE-DRAIN DIODE
FORWARD CHARACTERISTICS
(TYPICAL)**



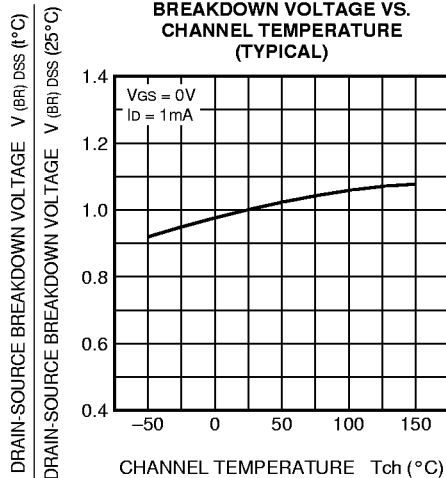
**ON-STATE RESISTANCE VS.
CHANNEL TEMPERATURE
(TYPICAL)**



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



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



**TRANSIENT THERMAL IMPEDANCE
CHARACTERISTICS**

