

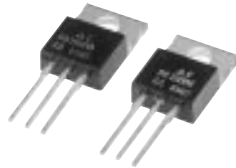
**PRELIMINARY**  
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MITSUBISHI Nch POWER MOSFET

# FS16UMA-4A

HIGH-SPEED SWITCHING USE

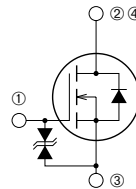
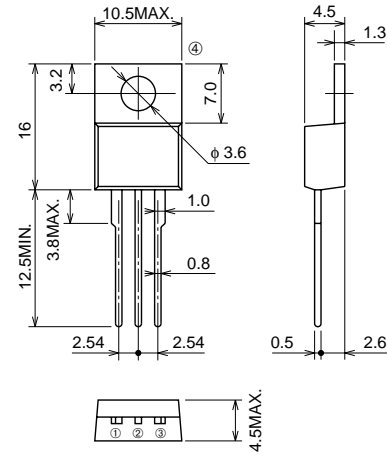
## FS16UMA-4A



- 10V DRIVE
- $V_{DSS}$  ..... 200V
- $r_{DS(ON)}$  (MAX) .....  $0.25\Omega$
- $I_D$  ..... 16A

## OUTLINE DRAWING

Dimensions in mm



- ① GATE
- ② DRAIN
- ③ SOURCE
- ④ DRAIN

TO-220

## APPLICATION

Cs Switch for CRT Display monitor, Switch mode power supply, etc.

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

Symbol	Parameter	Conditions	Ratings	Unit
$V_{DSS}$	Drain-source voltage	$V_{GS} = 0V$	200	V
$V_{GSS}$	Gate-source voltage	$V_{DS} = 0V$	$\pm 20$	V
$I_D$	Drain current		16	A
$I_{DM}$	Drain current (Pulsed)		48	A
$I_{DA}$	Avalanche drain current (Pulsed)	$L = 200\mu\text{H}$	16	A
PD	Maximum power dissipation		65	W
$T_{ch}$	Channel temperature		$-55 \sim +150$	$^\circ\text{C}$
$T_{stg}$	Storage temperature		$-55 \sim +150$	$^\circ\text{C}$
—	Weight	Typical value	2.0	g

Sep.1998



**FS16UMA-4A**

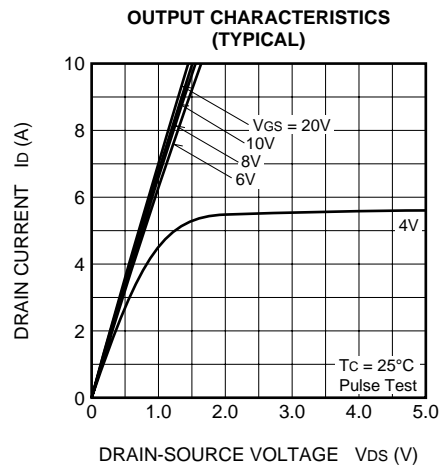
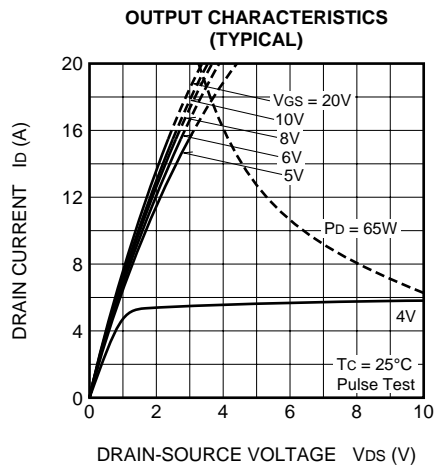
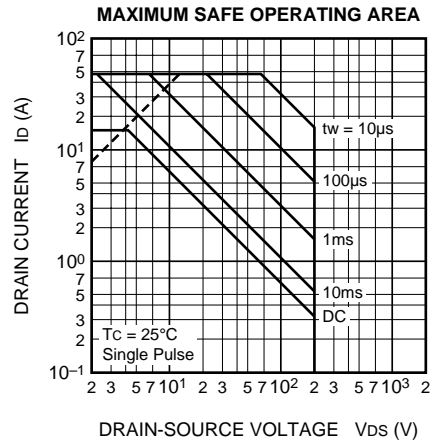
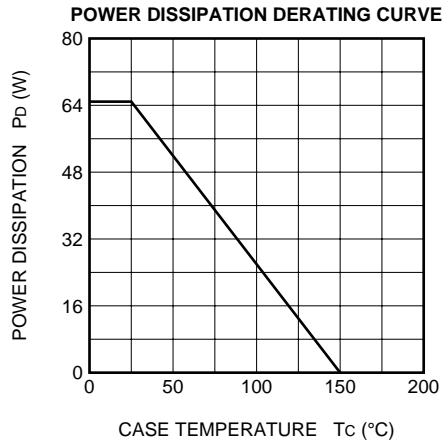
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**ELECTRICAL CHARACTERISTICS** (Tch = 25°C)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
V (BR) DSS	Drain-source breakdown voltage	Id = 1mA, Vds = 0V	200	—	—	V
V (BR) GSS	Gate-source breakdown voltage	Igs = ±10μA, Vds = 0V	±20	—	—	V
Igss	Gate-source leakage current	Vgs = ±20V, Vds = 0V	—	—	±10	μA
Idss	Drain-source leakage current	Vds = 200V, Vgs = 0V	—	—	1	mA
Vgs (th)	Gate-source threshold voltage	Id = 1mA, Vds = 10V	2.0	3.0	4.0	V
rDS (ON)	Drain-source on-state resistance	Id = 8A, Vgs = 10V	—	0.20	0.25	Ω
VDS (ON)	Drain-source on-state voltage	Id = 8A, Vgs = 10V	—	1.60	2.00	V
yfs	Forward transfer admittance	Id = 8A, Vds = 10V	—	13.0	—	S
Ciss	Input capacitance	Vds = 25V, Vgs = 0V, f = 1MHz	—	1150	—	pF
Coss	Output capacitance		—	145	—	pF
Crss	Reverse transfer capacitance		—	45	—	pF
td (on)	Turn-on delay time		VDD = 100V, Id = 8A, Vgs = 10V, RGEN = RGS = 50Ω	—	20	—
tr	Rise time	—		30	—	ns
td (off)	Turn-off delay time	—		170	—	ns
tf	Fall time	—		50	—	ns
VSD	Source-drain voltage	Is = 8A, Vgs = 0V	—	0.95	—	V
Rth (ch-c)	Thermal resistance	Channel to case	—	—	1.92	°C/W

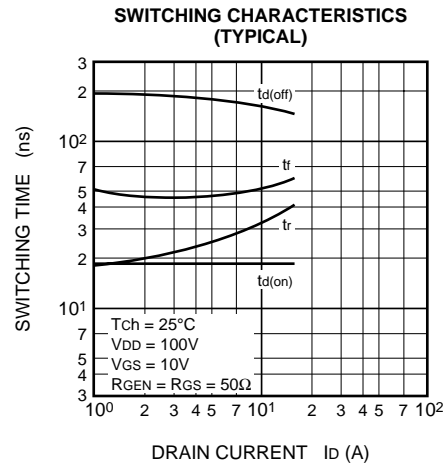
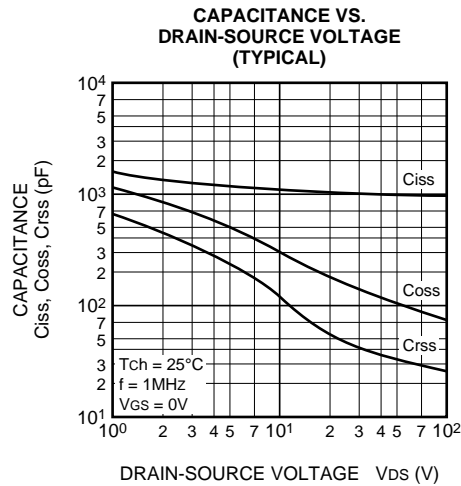
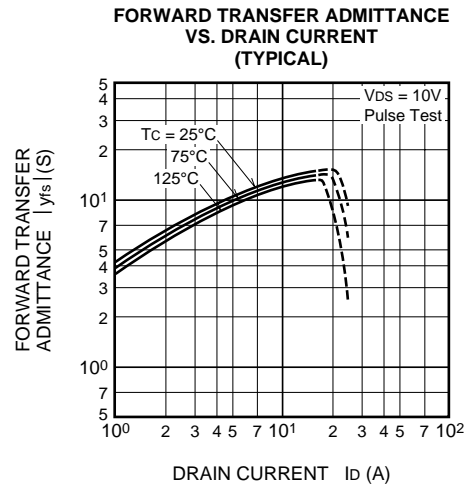
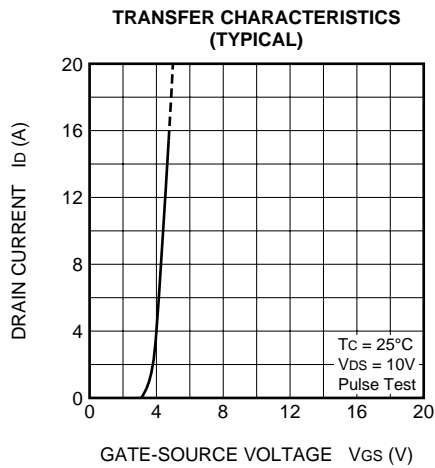
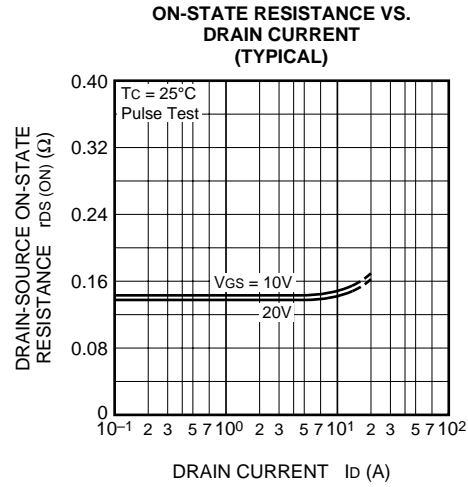
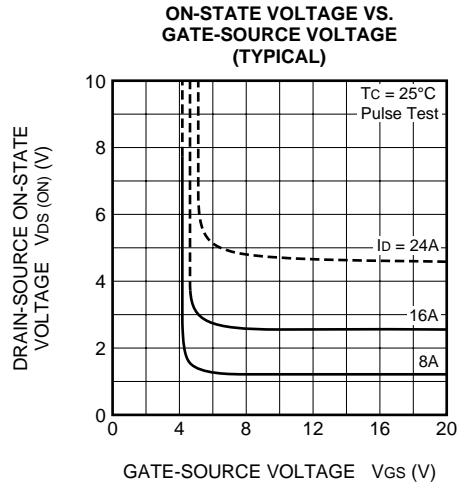
**PERFORMANCE CURVES**



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