

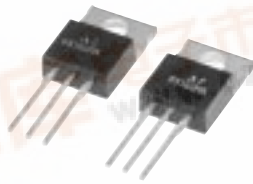
**PRELIMINARY**  
 Notice: This is not a final specification.  
 Some parametric limits are subject to change.

MITSUBISHI Nch POWER MOSFET

# FS16UMA-5A

HIGH-SPEED SWITCHING USE

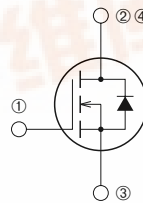
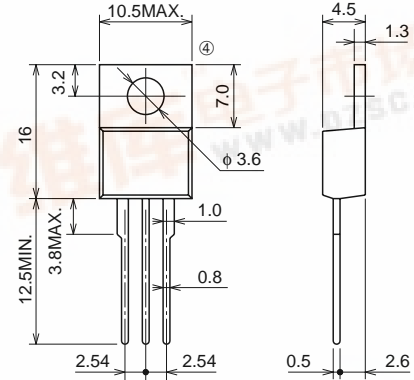
## FS16UMA-5A



- 10V DRIVE
- V<sub>DSS</sub> ..... 250V
- r<sub>D(S)</sub> (ON) (MAX) ..... 0.25Ω
- I<sub>D</sub> ..... 16A

## OUTLINE DRAWING

Dimensions in mm



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

TO-220

## APPLICATION

Cs Switch for CRT Display monitor

## MAXIMUM RATINGS (T<sub>c</sub> = 25°C)

Symbol	Parameter	Conditions	Ratings	Unit
V <sub>DSS</sub>	Drain-source voltage	V <sub>GS</sub> = 0V	250	V
V <sub>GSS</sub>	Gate-source voltage	V <sub>DS</sub> = 0V	±20	V
I <sub>D</sub>	Drain current		16	A
I <sub>DM</sub>	Drain current (Pulsed)		48	A
I <sub>DA</sub>	Avalanche drain current (Pulsed)	L = 200μH	16	A
P <sub>D</sub>	Maximum power dissipation		80	W
T <sub>ch</sub>	Channel temperature		-55 ~ +150	°C
T <sub>stg</sub>	Storage temperature		-55 ~ +150	°C
—	Weight	Typical value	2.0	g



**PRELIMINARY**  
 Notice: This is not a final specification.  
 Some parametric limits are subject to change.

**ELECTRICAL CHARACTERISTICS** ( $T_{ch} = 25^{\circ}\text{C}$ )

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
V (BR) DSS	Drain-source breakdown voltage	$I_D = 1\text{mA}, V_{GS} = 0\text{V}$	250	—	—	V
IGSS	Gate-source leakage current	$V_{GS} = \pm 20\text{V}, V_{DS} = 0\text{V}$	—	—	$\pm 10$	$\mu\text{A}$
IDSS	Drain-source leakage current	$V_{DS} = 250\text{V}, V_{GS} = 0\text{V}$	—	—	1	mA
VGS (th)	Gate-source threshold voltage	$I_D = 1\text{mA}, V_{DS} = 10\text{V}$	2.0	3.0	4.0	V
rDS (ON)	Drain-source on-state resistance	$I_D = 8\text{A}, V_{GS} = 10\text{V}$	—	0.19	0.25	$\Omega$
VDS (ON)	Drain-source on-state voltage	$I_D = 8\text{A}, V_{GS} = 10\text{V}$	—	1.52	2.00	V
yfs	Forward transfer admittance	$I_D = 8\text{A}, V_{DS} = 10\text{V}$	—	16.0	—	S
Ciss	Input capacitance	$V_{DS} = 25\text{V}, V_{GS} = 0\text{V}, f = 1\text{MHz}$	—	1850	—	pF
Coss	Output capacitance		—	180	—	pF
Crss	Reverse transfer capacitance		—	50	—	pF
td (on)	Turn-on delay time	$V_{DD} = 150\text{V}, I_D = 8\text{A}, V_{GS} = 10\text{V}, R_{GEN} = R_{GS} = 50\Omega$	—	30	—	ns
tr	Rise time		—	50	—	ns
td (off)	Turn-off delay time		—	320	—	ns
tf	Fall time		—	70	—	ns
VSD	Source-drain voltage	$I_S = 8\text{A}, V_{GS} = 0\text{V}$	—	0.95	—	V
Rth (ch-c)	Thermal resistance	Channel to case	—	—	1.56	$^{\circ}\text{C/W}$