

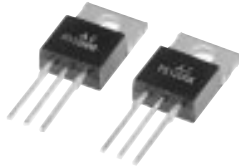
PRELIMINARY
 Notice: This is not a final specification.
 Some parametric limits are subject to change.

MITSUBISHI Nch POWER MOSFET

FS12UMA-5A

HIGH-SPEED SWITCHING USE

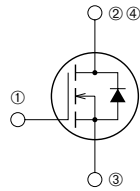
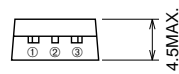
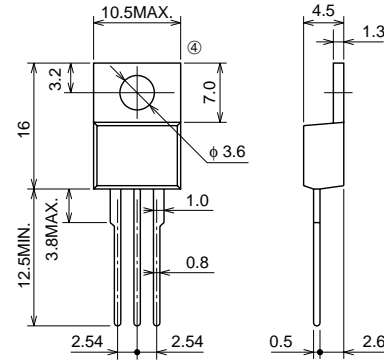
FS12UMA-5A



- 10V DRIVE
- V_{DSS} 250V
- $r_{DS(ON)}$ (MAX) 0.40 Ω
- I_D 12A

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_c = 25°C)

Symbol	Parameter	Conditions	Ratings	Unit
V_{DSS}	Drain-source voltage	$V_{GS} = 0V$	250	V
V_{GSS}	Gate-source voltage	$V_{DS} = 0V$	± 20	V
I_D	Drain current		12	A
I_{DM}	Drain current (Pulsed)		36	A
I_{DA}	Avalanche drain current (Pulsed)	$L = 200\mu H$	12	A
PD	Maximum power dissipation		65	W
T _{ch}	Channel temperature		-55 ~ +150	°C
T _{stg}	Storage temperature		-55 ~ +150	°C
—	Weight	Typical value	2.0	g

Sep.1998



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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
I _{GSS}	Gate-source leakage current	$V_{GS} = \pm 20\text{V}, V_{DS} = 0\text{V}$	—	—	± 10	μA
I _{DSS}	Drain-source leakage current	$V_{DS} = 250\text{V}, V_{GS} = 0\text{V}$	—	—	1	mA
V _{GS} (th)	Gate-source threshold voltage	$I_D = 1\text{mA}, V_{DS} = 10\text{V}$	2.0	3.0	4.0	V
r _{DS} (ON)	Drain-source on-state resistance	$I_D = 6\text{A}, V_{GS} = 10\text{V}$	—	0.27	0.40	Ω
V _{DS} (ON)	Drain-source on-state voltage	$I_D = 6\text{A}, V_{GS} = 10\text{V}$	—	1.62	2.40	V
y _{fs}	Forward transfer admittance	$I_D = 6\text{A}, V_{DS} = 10\text{V}$	—	11.0	—	S
C _{iss}	Input capacitance	$V_{DS} = 25\text{V}, V_{GS} = 0\text{V}, f = 1\text{MHz}$	—	1200	—	pF
C _{oss}	Output capacitance		—	120	—	pF
C _{rss}	Reverse transfer capacitance		—	30	—	pF
t _d (on)	Turn-on delay time	$V_{DD} = 150\text{V}, I_D = 6\text{A}, V_{GS} = 10\text{V}, R_{GEN} = R_{GS} = 50\Omega$	—	20	—	ns
t _r	Rise time		—	30	—	ns
t _d (off)	Turn-off delay time		—	190	—	ns
t _f	Fall time		—	45	—	ns
V _{SD}	Source-drain voltage	$I_S = 6\text{A}, V_{GS} = 0\text{V}$	—	0.95	—	V
R _{th} (ch-c)	Thermal resistance	Channel to case	—	—	1.92	$^{\circ}\text{C/W}$