FS7KM-12A

- 10V DRIVE
- V$_{DSS}$ 600V
- r$_{DS}$ (ON) (MAX) 1.3Ω
- I$_D$ 7A

OUTLINE DRAWING   **Dimensions in mm**

① GATE
② DRAIN
③ SOURCE

TO-220FN
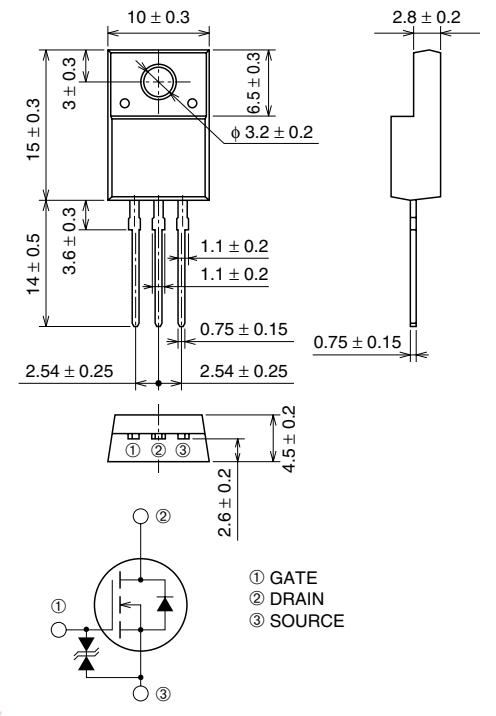
APPLICATION

SMPS, AC-adapter, Power supply of Printer, Copier, TV, VCR. etc.

MAXIMUM RATINGS (Tc = 25°C)

Symbol	Parameter	Conditions	Ratings	Unit
V$_{DSS}$	Drain-source voltage	V$_{GS}$ = 0V	600	V
V$_{GSS}$	Gate-source voltage	V$_{DS}$ = 0V	±30	V
I$_D$	Drain current		7	A
I$_{DM}$	Drain current (Pulsed)		21	A
I$_{DA}$	Avalanche current (Pulsed)	L = 200μH	7	A
P$_D$	Maximum power dissipation		35	W
T$_{ch}$	Channel temperature		−55 ~ +150	°C
T$_{stg}$	Storage temperature		−55 ~ +150	°C
V$_{iso}$	Isolation voltage	AC for 1minute, Terminal to case	2000	V
—	Weight	Typical value	2.0	g

Sep. 2001

ELECTRICAL CHARACTERISTICS (Tch = 25°C)

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
V (BR) DSS	Drain-source breakdown voltage	ID = 1mA, VGS = 0V	600	—	—	V
V (BR) GSS	Gate-source breakdown voltage	IGS = ±100μA, VDS = 0V	±30	—	—	V
IGSS	Gate-source leakage current	VGS = ±25V, VDS = 0V	—	—	±10	μA
IDSS	Drain-source leakage current	VDS = 600V, VGS = 0V	—	—	1	mA
VGS (th)	Gate-source threshold voltage	ID = 1mA, VDS = 10V	2.5	3.0	3.5	V
rDS (ON)	Drain-source on-state resistance	ID = 3A, VGS = 10V	—	1.0	1.3	Ω
VDS (ON)	Drain-source on-state voltage	ID = 3A, VGS = 10V	—	3.0	3.9	V
|yfs|	Forward transfer admittance	ID = 3A, VDS = 10V	4.2	7.0	—	S
Ciss	Input capacitance		—	1100	—	pF
Coss	Output capacitance	VDS = 25V, VGS = 0V, f = 1MHz	—	100	—	pF
Crss	Reverse transfer capacitance		—	25	—	pF
td (on)	Turn-on delay time		—	20	—	ns
tr	Rise time		—	25	—	ns
td (off)	Turn-off delay time	VDD = 200V, ID = 3A, VGS = 10V, RGEN = RGS = 50Ω	—	150	—	ns
tf	Fall time		—	35	—	ns
VSD	Source-drain voltage	IS = 3A, VGS = 0V	—	1.5	2.0	V
Rth (ch-c)	Thermal resistance	Channel to case	—	—	3.57	°C/W

PERFORMANCE CURVES

POWER DISSIPATION DERATING CURVE

MAXIMUM SAFE OPERATING AREA

OUTPUT CHARACTERISTICS (TYPICAL)

OUTPUT CHARACTERISTICS (TYPICAL)