

FS30KMJ-06F

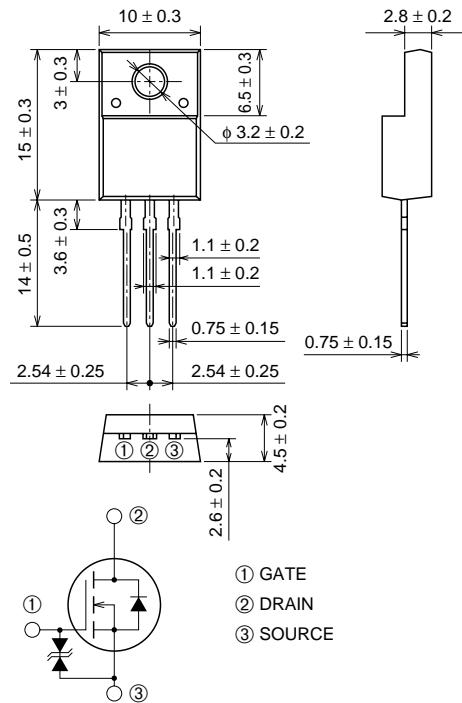
HIGH-SPEED SWITCHING USE

FS30KMJ-06F

- 4V DRIVE
- V_{DSS} 60V
- r_{DS} (ON) (MAX) 22mΩ
- I_D 30A
- Integrated Fast Recovery Diode (TYP.) 50ns

OUTLINE DRAWING

Dimensions in mm

**APPLICATION**

Motor control, Lamp control, Solenoid control
DC-DC converter, etc.

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

Symbol	Parameter	Conditions	Ratings	Unit
V _{DSS}	Drain-source voltage	V _{GS} = 0V	60	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 current (Pulsed)	L = 10μH	30	A
I _S	Source current		30	A
I _{SM}	Source current (Pulsed)		120	A
P _D	Maximum power dissipation		25	W
T _{ch}	Channel temperature		-55 ~ +150	°C
T _{stg}	Storage temperature		-55 ~ +150	°C
V _{iso}	Isolation voltage	AC for 1 minute, Terminal to case	2000	V
—	Weight	Typical value	2.0	g

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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	ID = 1mA, VGS = 0V	60	—	—	V
V (BR) GSS	Gate-source breakdown voltage	IG = ±100µA, VDS = 0V	±20	—	—	V
Idss	Drain-source leakage current	VDS = 60V, VGS = 0V	—	—	100	µA
IGSS	Gate-source leakage current	VGS = ±20V, VDS = 0V	—	—	±10	µA
VGS (th)	Gate-source threshold voltage	ID = 1mA, VDS = 10V	1.0	1.5	2.0	V
rDS (ON)	Drain-source on-state resistance	ID = 15A, VGS = 10V	—	18	22	mΩ
rDS (ON)	Drain-source on-state resistance	ID = 15A, VGS = 4V	—	22	28	mΩ
VDS (ON)	Drain-source on-state voltage	ID = 15A, VGS = 10V	—	0.27	0.33	V
yfs	Forward transfer admittance	ID = 15A, VDS = 10V	—	38	—	S
Ciss	Input capacitance	VDS = 10V, VGS = 0V, f = 1MHz	—	2600	—	pF
Coss	Output capacitance		—	385	—	pF
Crss	Reverse transfer capacitance		—	200	—	pF
td (on)	Turn-on delay time	VDD = 30V, ID = 15A, VGS = 10V, RGEN = RGS = 50Ω	—	13	—	ns
tr	Rise time		—	70	—	ns
td (off)	Turn-off delay time		—	240	—	ns
tf	Fall time		—	100	—	ns
VSD	Source-drain voltage	IS = 15A, VGS = 0V	—	1.0	1.5	V
Rth (ch-c)	Thermal resistance	Channel to case	—	—	5.00	°C/W
trr	Reverse recovery time	IS = 30A, dIs/dt = -100A/µs	—	50	—	ns