

MITSUBISHI Nch POWER MOSFET

FL14KM-12A

HIGH-SPEED SWITCHING USE

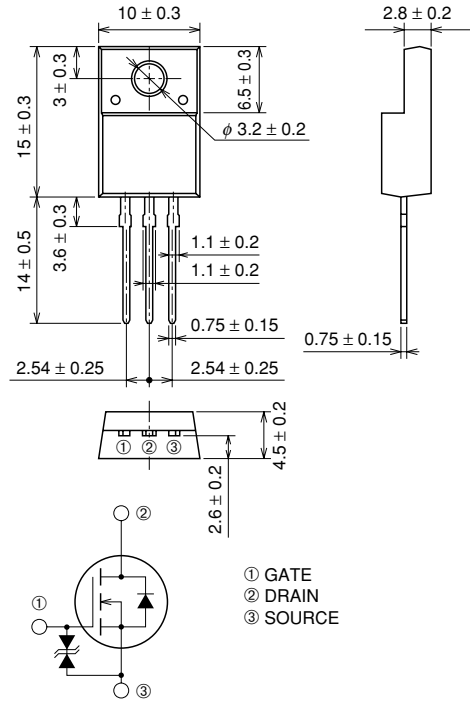
FL14KM-12A



- 10V DRIVE
- V_{DSS} 600V
- r_{DS (ON)} (MAX) 0.75Ω
- I_D 14A

OUTLINE DRAWING

Dimensions in mm



TO-220FN

APPLICATION

SMPS, Inverter type fluorescent light sets, etc.

MAXIMUM RATINGS (T_c = 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		14	A
I _{DM}	Drain current (Pulsed)		42	A
I _{DA}	Avalanche current (Pulsed)	L = 200μH	14	A
P _D	Maximum power dissipation		40	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

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ELECTRICAL CHARACTERISTICS (T_{ch} = 25°C)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
V (BR) DSS	Drain-source breakdown voltage	I _D = 1mA, V _{GS} = 0V	600	—	—	V
V (BR) GSS	Gate-source breakdown voltage	I _G = ±100μA, V _{DS} = 0V	±30	—	—	V
I _{GSS}	Gate-source leakage current	V _{GS} = ±25V, V _{DS} = 0V	—	—	±10	μA
I _{DSS}	Drain-source leakage current	V _{DS} = 600V, V _{GS} = 0V	—	—	1	mA
V _{GS} (th)	Gate-source threshold voltage	I _D = 1mA, V _{DS} = 10V	2.0	3.0	4.0	V
r _{DS} (ON)	Drain-source on-state resistance	I _D = 7A, V _{GS} = 10V	—	0.58	0.75	Ω
V _{DS} (ON)	Drain-source on-state voltage	I _D = 7A, V _{GS} = 10V	—	4.06	5.25	V
y _{fs}	Forward transfer admittance	I _D = 7A, V _{DS} = 10V	—	11	—	S
C _{iss}	Input capacitance	V _{DS} = 25V, V _{GS} = 0V, f = 1MHz	—	1600	—	pF
C _{oss}	Output capacitance		—	210	—	pF
C _{rss}	Reverse transfer capacitance		—	80	—	pF
t _d (on)	Turn-on delay time		—	30	—	ns
t _r	Rise time	V _{DD} = 200V, I _D = 7A, V _{GS} = 10V, R _{GEN} = R _{GS} = 50Ω	—	60	—	ns
t _d (off)	Turn-off delay time		—	290	—	ns
t _f	Fall time		—	120	—	ns
V _{SD}	Source-drain voltage	I _S = 7A, V _{GS} = 0V	—	1.5	2.0	V
R _{th} (ch-c)	Thermal resistance	Channel to case	—	—	3.13	°C/W