


FY8AAJ-03F

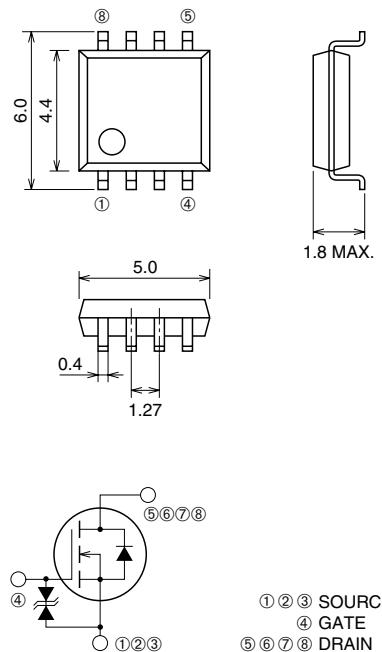
HIGH-SPEED SWITCHING USE

FY8AAJ-03F



- 4V DRIVE
- V_{DSS} 30V
- r_{DS (ON)} (MAX) 28mΩ
- I_D 8A

OUTLINE DRAWING Dimensions in mm



① ② ③ SOURCE
④ GATE
⑤ ⑥ ⑦ ⑧ DRAIN

SOP-8

APPLICATION

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

MAXIMUM RATINGS (T_c = 25°C)

Symbol	Parameter	Conditions	Ratings	Unit
V _{DSS}	Drain-source voltage	V _{GS} = 0V	30	V
V _{GSS}	Gate-source voltage	V _{DS} = 0V	±20	V
I _D	Drain current		8	A
I _{DM}	Drain current (Pulsed)		56	A
I _{DA}	Avalanche drain current (Pulsed)	L = 10μH	8	A
I _S	Source current		1.5	A
I _{SM}	Source current (Pulsed)		6.0	A
P _D	Maximum power dissipation		1.7	W
T _{ch}	Channel temperature		-55~+150	°C
T _{stg}	Storage temperature		-55~+150	°C
—	Weight	Typical value	0.07	g

ELECTRICAL CHARACTERISTICS (Tch = 25°C)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
V (BR)DSS	Drain-source breakdown voltage	ID = 1mA, VGS = 0V	30	—	—	V
V (BR)GSS	Gate-source breakdown voltage	IG = ±100μA, VGS = 0V	±20	—	—	V
IDSS	Drain-source leakage current	VDS = 30V, VGS = 0V	—	—	0.1	mA
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 = 8A, VGS = 10V	—	22	28	mΩ
rDS (ON)	Drain-source on-state resistance	ID = 4A, VGS = 4.5V	—	31	43	mΩ
rDS (ON)	Drain-source on-state resistance	ID = 4A, VGS = 4V	—	35	50	mΩ
VDS (ON)	Drain-source on-state voltage	ID = 8A, VGS = 10V	—	0.176	0.224	V
yfs	Forward transfer admittance	ID = 8A, VDS = 10V	—	13	—	S
Ciss	Input capacitance	VDS = 10V, VGS = 0V, f = 1MHz	—	600	—	pF
Coss	Output capacitance		—	200	—	pF
Crss	Reverse transfer capacitance		—	90	—	pF
td (on)	Turn-on delay time	VDD = 15V, ID = 4A, VGS = 10V, RG = 50Ω	—	12	—	ns
tr	Rise time		—	16	—	ns
td (off)	Turn-off delay time		—	30	—	ns
tf	Fall time		—	6.5	—	ns
Qg	Total gate charge	VDD = 15V, VGS = 10V, ID = 8A	—	13.8	—	nC
Qgs	Gate-source charge		—	1.6	—	nC
Qgd	Gate-drain charge		—	3.5	—	nC
VSD	Source-drain voltage	IS = 1.5A, VGS = 0V	—	0.75	1.10	V
Rth (ch-a)	Thermal resistance	Channel to air	—	—	73.5	°C/W
trr	Reverse recovery time	IS = 1.5A, dis/dt = -50A/μs	—	50	—	ns