


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

MITSUBISHI Nch POWER MOSFET

FY6BGH-02F

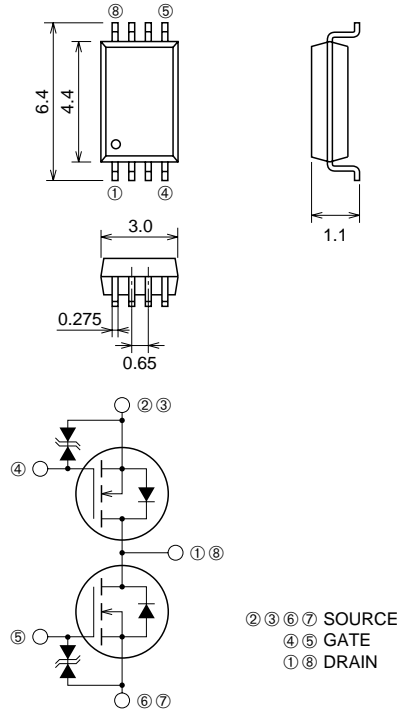
HIGH-SPEED SWITCHING USE

FY6BGH-02F



- DRAIN COMMON
- 2.5V DRIVE
- V_{DSS} 20V
- $r_{DS(ON)}(MAX)$ 25m Ω
- I_D 6A

OUTLINE DRAWING Dimensions in mm



TSSOP8

APPLICATION

Li - ion battery protection

MAXIMUM RATINGS (Tc = 25°C)

Symbol	Parameter	Conditions	Ratings	Unit
V_{DSS}	Drain-source voltage	$V_{GS} = 0V$	20	V
V_{GSS}	Gate-source voltage	$V_{DS} = 0V$	± 10	V
I_D	Drain current		6	A
I_{DM}	Drain current (Pulsed)		42	A
I_{DA}	Avalanche current (Pulsed)	$L = 10\mu H$	6	A
I_S	Source current		1.3	A
I_{SM}	Source current (Pulsed)		5.2	A
P_D	Maximum power dissipation		1.4	W
T_{ch}	Channel temperature		-55 ~ +150	°C
T_{stg}	Storage temperature		-55 ~ +150	°C
—	Weight	Typical value	0.035	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	20	—	—	V
V (BR) GSS	Gate-source breakdown voltage	I _G = ±100μA, V _{DS} = 0V	±10	—	—	V
I _{GSS}	Gate-source leakage current	V _{GS} = ±10V, V _{DS} = 0V	—	—	±10	μA
I _{DSS}	Drain-source leakage current	V _{DS} = 20V, V _{GS} = 0V	—	—	0.1	mA
V _{GS} (th)	Gate-source threshold voltage	I _D = 1mA, V _{DS} = 10V	0.5	0.9	1.5	V
r _{DS} (ON)	Drain-source on-state resistance	I _D = 6A, V _{GS} = 4V	—	20	25	mΩ
r _{DS} (ON)	Drain-source on-state resistance	I _D = 3A, V _{GS} = 2.5V	—	25	35	mΩ
V _{DS} (ON)	Drain-source on-state voltage	I _D = 6A, V _{GS} = 4V	—	0.120	0.150	V
y _{fs}	Forward transfer admittance	I _D = 6A, V _{DS} = 10V	—	15	—	S
C _{iss}	Input capacitance	V _{DS} = 10V, V _{GS} = 0V, f = 1MHz	—	1150	—	pF
C _{oss}	Output capacitance		—	—	—	pF
C _{rss}	Reverse transfer capacitance		—	—	—	pF
t _d (on)	Turn-on delay time	V _{DD} = 10V, I _D = 3A, V _{GS} = 4V, R _{GEN} = R _{GS} = 50Ω	—	—	—	ns
t _r	Rise time		—	—	—	ns
t _d (off)	Turn-off delay time		—	—	—	ns
t _f	Fall time		—	—	—	ns
V _{SD}	Source-drain voltage	I _S = 1.3A, V _{GS} = 0V	—	0.85	1.1	V
R _{th} (ch-a)	Thermal resistance	Channel to ambient	—	—	89.3	°C/W
t _{rr}	Reverse recovery time	I _S = 1.3A, dis/dt = -50A/μs	—	50	—	ns