Fuji Electric

http://www.fujielectric.com/products/semiconductor/

FMH23N50E

FUJI POWER MOSFET

Super FAP-E^3 series

N-CHANNEL SILICON POWER MOSFET

Features

Maintains both low power loss and low noise
Lower R_{DS}(on) characteristic
More controllable switching dv/dt by gate resistance
Smaller V_{GS} ringing waveform during switching
Narrow band of the gate threshold voltage (3.0±0.5V)
High avalanche durability

Outline Drawings [mm]

Equivalent circuit schematic

Applications

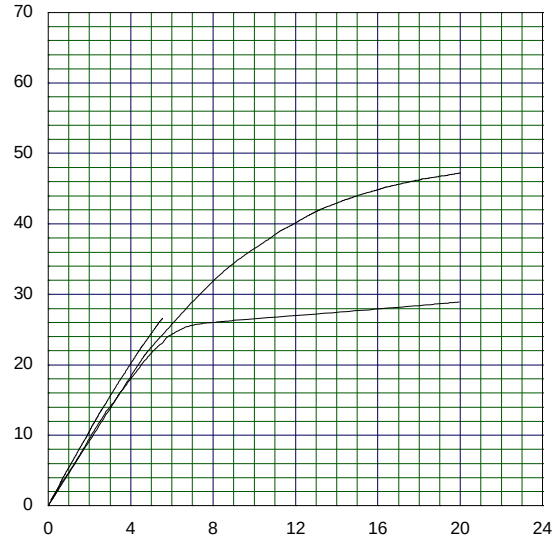
Switching regulators
UPS (Uninterruptible Power Supply)
DC-DC converters

Maximum Ratings and Characteristics

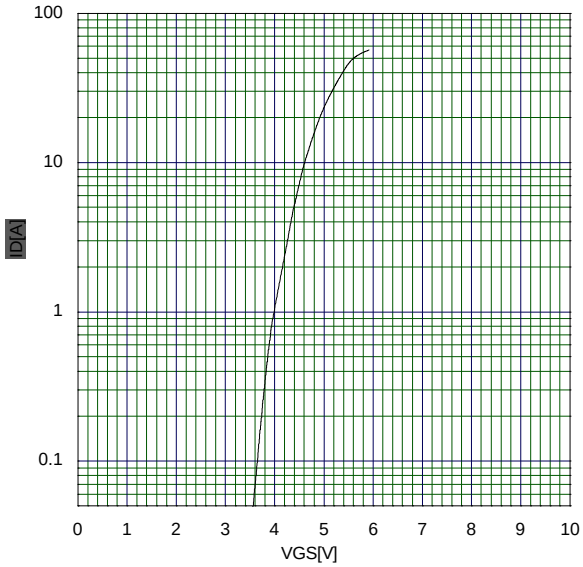
● **Absolute Maximum Ratings at Tc=25°C (unless otherwise specified)**

Description	Symbol	Characteristics	Unit	Remarks
Drain-Source Voltage	V_{DS}	500	V	
	V_{DSX}	500	V	V_{GS} = -30V
Continuous Drain Current	I_D	±23	A	
Pulsed Drain Current	I_{DP}	±92	A	
Gate-Source Voltage	V_{GS}	±30	V	
Repetitive and Non-Repetitive Maximum Avalanche Current	I_{AR}	23	A	Note*1
Non-Repetitive Maximum Avalanche Energy	E_{AS}	767.3	mJ	Note*2
Repetitive Maximum Avalanche Energy	E_{AR}	31.5	mJ	Note*3
Peak Diode Recovery dV/dt	dV/dt	9.3	kV/µs	Note*4
Peak Diode Recovery -di/dt	-di/dt	100	A/µs	Note*5
Maximum Power Dissipation	P_D	2.50	W	Ta=25°C
		315		Tc=25°C
Operating and Storage	T_{ch}	150	°C	
Temperature range	T_{stg}	-55 to + 150	°C	

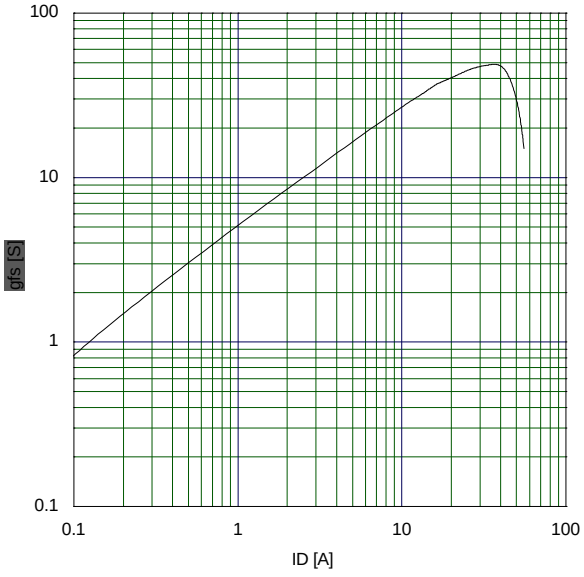
● **Electrical Characteristics at Tc=25°C (unless otherwise specified)**



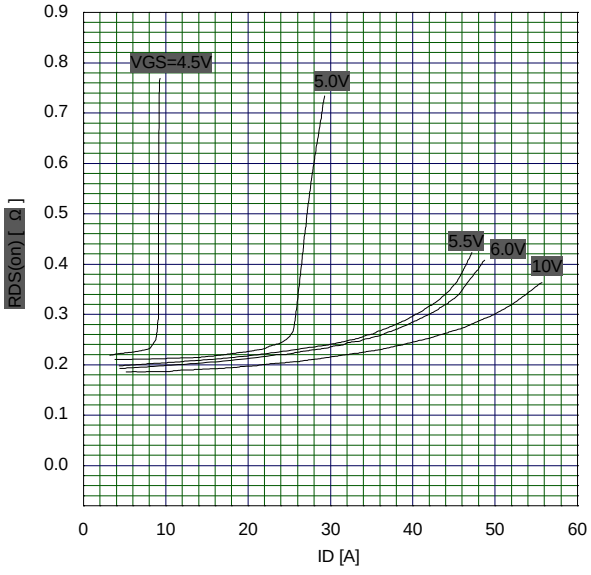
Typical Transfer Characteristic
ID=f(VGS):80 s pulse test,VDS=25V, Tch=25°C



Typical Transconductance
gfs=f(ID):80 μs pulse test, VDS=25V, Tch=25°C

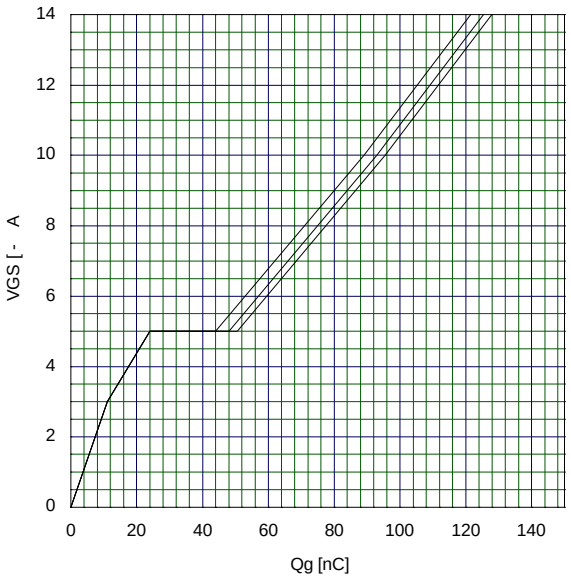


Typical Drain-Source on-state Resistance
RDS(on)=f(ID):80 s pulse test, Tch=25°C

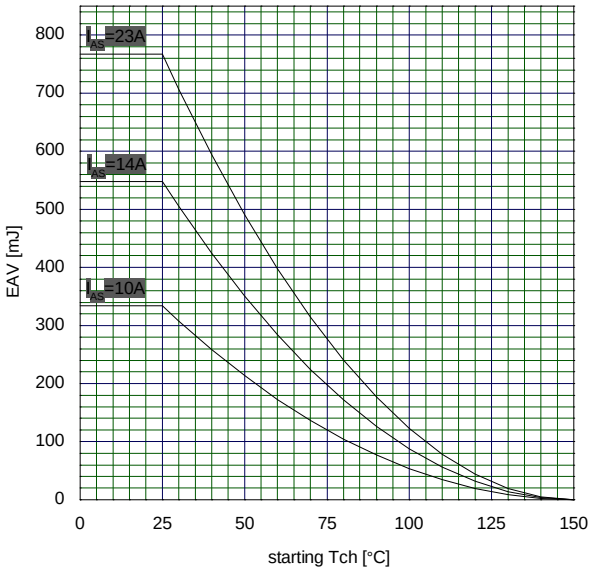


C]

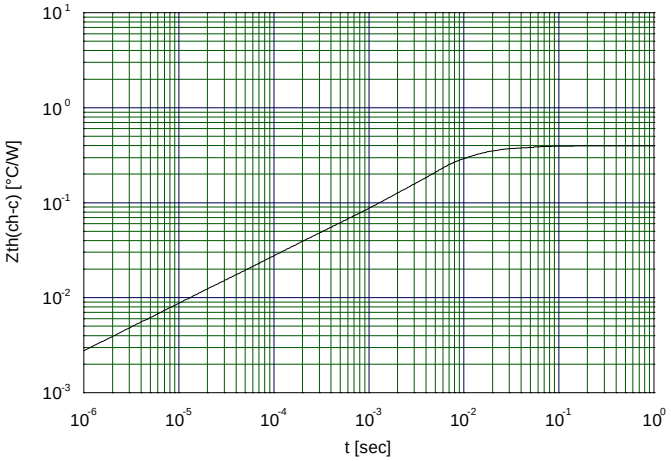
Typical Gate Charge Characteristics
VGS=f(Qg):ID=23A, Tch=25°C



Maximum Avalanche Energy vs. starting Tch
E(AV)=f(starting Tch):Vcc=50V, I(AV)<=23A



Maximum Transient Thermal Impedance
Zth(ch-c)=f(t):D=0



WARNING

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The contents are subject to change without notice for specifcation changes or other reasons. When using a product listed in this Catalog, be sur to obtain the latest specifcations.

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- Communications equipment (terminal devices)
- Measurement equipment
- Machine tools
- Audiovisual equipment
- Electrical home appliances
- Personal equipment
- Industrial robots etc.

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- Safety devices
- Medical equipment

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