

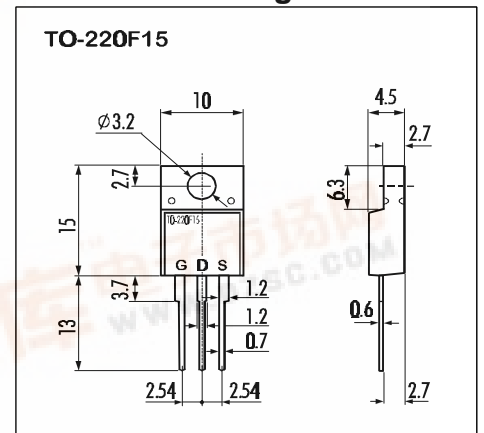
> Features

- High Speed Switching
- Low On-Resistance
- No Secondary Breakdown
- Low Driving Power
- High Voltage
- V_{GS} = ± 30V Guarantee
- Avalanche Proof

> Applications

- Switching Regulators
- UPS
- DC-DC converters
- General Purpose Power Amplifier

> Outline Drawing

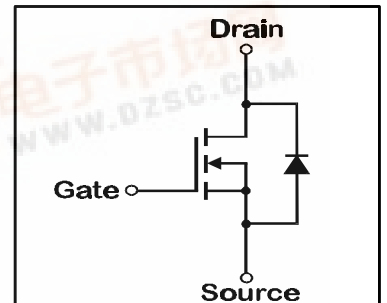


> Maximum Ratings and Characteristics

- Absolute Maximum Ratings (T_C=25°C), unless otherwise specified

Item	Symbol	Rating	Unit
Drain-Source-Voltage	V _{DS}	250	V
Drain-Gate-Voltage(R _{GS} =20KΩ)	V _{DGR}	250	V
Continous Drain Current	I _D	18	A
Pulsed Drain Current	I _{D(puls)}	72	A
Gate-Source-Voltage	V _{GS}	±30	V
Max. Power Dissipation	P _D	50	W
Operating and Storage Temperature Range	T _{ch}	150	°C
	T _{stg}	-55 ~ +150	°C

> Equivalent Circuit



- Electrical Characteristics (T_C=25°C), unless otherwise specified

Item	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown-Voltage	V _{(BR)DSS}	I _D =1mA V _{GS} =0V	250			V
Gate Threshold Voltage	V _{GS(th)}	I _D =1mA V _{DS} =V _{GS}	2,5	3,0	3,5	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =250V T _{ch} =25°C		10	500	μA
		V _{GS} =0V T _{ch} =125°C		0,2	1,0	mA
Gate Source Leakage Current	I _{GSS}	V _{GS} =±30V V _{DS} =0V		10	100	nA
Drain Source On-State Resistance	R _{DS(on)}	I _D =9A V _{GS} =10V		0,13	0,18	Ω
Forward Transconductance	g _{fs}	I _D =9A V _{DS} =25V	7	14		S
Input Capacitance	C _{iss}	V _{DS} =25V		1750	2650	pF
Output Capacitance	C _{oss}	V _{GS} =0V		290	440	pF
Reverse Transfer Capacitance	C _{rss}	f=1MHz		65	100	pF
Turn-On-Time t _{on} (t _{on} =t _{d(on)} +t _r)	t _{d(on)}	V _{CC} =150V		30	45	ns
	t _r	I _D =18A		50	75	ns
Turn-Off-Time t _{off} (t _{off} =t _{d(off)} +t _f)	t _{d(off)}	V _{GS} =10V		80	120	ns
	t _f	R _{GS} =10 Ω		70	110	ns
Avalanche Capability	I _{AV}	L=100μH T _{ch} =25°C	18			A
Continous Reverse Drain Current	I _{DR}				18	A
Pulsed Reverse Drain Current	I _{DRM}				72	A
Diode Forward On-Voltage	V _{SD}	I _F =2xI _{DR} V _{GS} =0V T _{ch} =25°C		1	1,5	V
Reverse Recovery Time	t _{rr}	I _F =I _{DR} V _{GS} =0V		150		ns
Reverse Recovery Charge	Q _{rr}	-di _F /dt=100A/μs T _{ch} =25°C		1		μC

- Thermal Characteristics

Item	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Thermal Resistance	R _{th(ch-a)}	channel to air			62,5	°C/W
	R _{th(ch-c)}	channel to case			2,5	°C/W



N-channel MOS-FET			
250V	0,18Ω	18A	50W

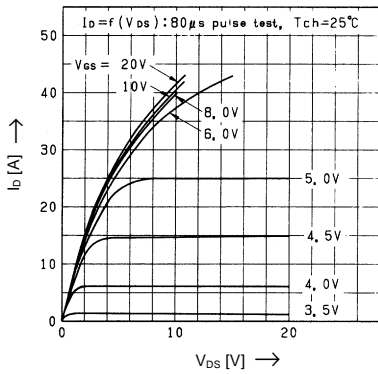
2SK2255-01MR

FAP-IIA Series

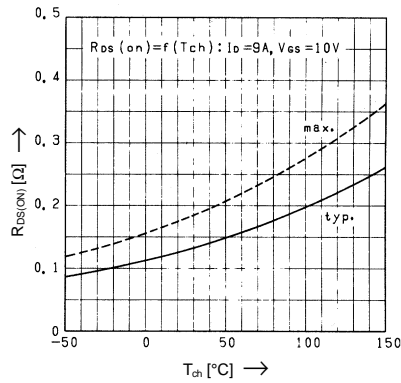


> Characteristics

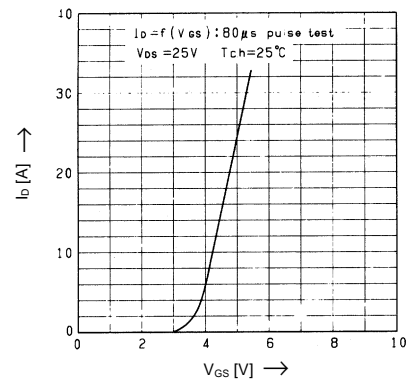
Typical Output Characteristics



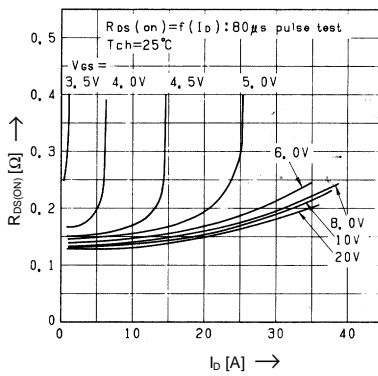
Drain-Source-On-State Resistance vs. Tch



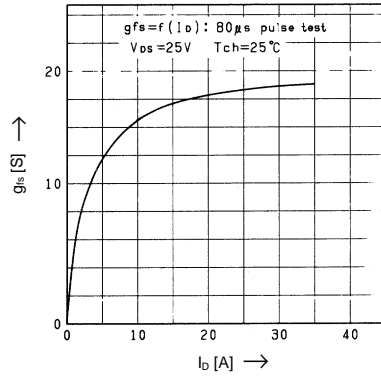
Typical Transfer Characteristics



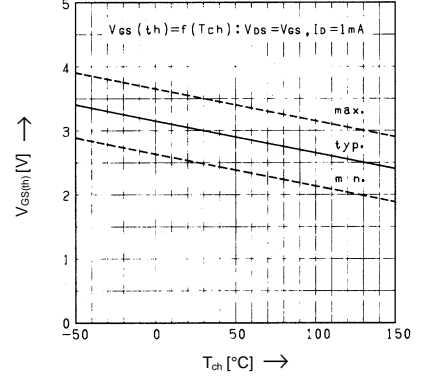
Typical Drain-Source-On-State-Resistance vs. Id



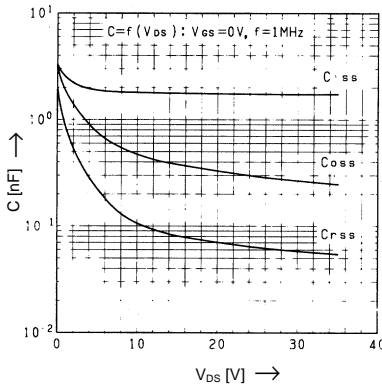
Typical Forward Transconductance vs. Id



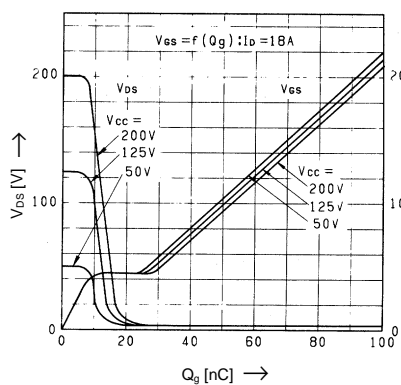
Gate Threshold Voltage vs. Tch



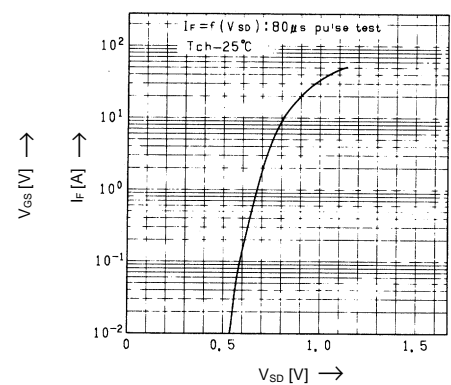
Typical Capacitance vs. Vds



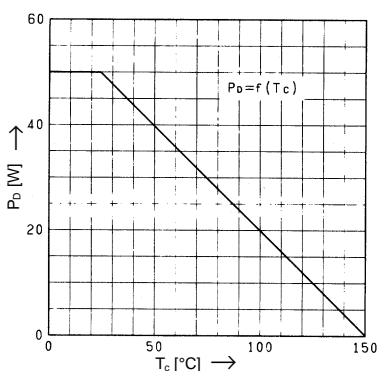
Typical Input Charge



Forward Characteristics of Reverse Diode



Allowable Power Dissipation vs. Tch



Safe operation area

