

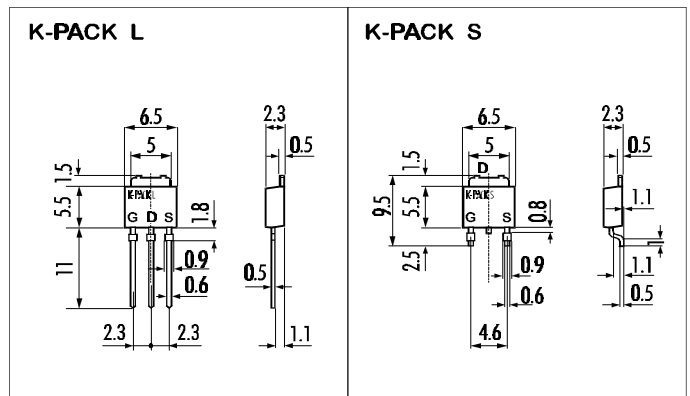
> Features

- High Current
- Low On-Resistance
- No Secondary Breakdown
- Low Driving Power
- High Forward Transconductance
- Avalanche Proof

> Applications

- Motor Control
- General Purpose Power Amplifier
- DC-DC converters

> Outline Drawing

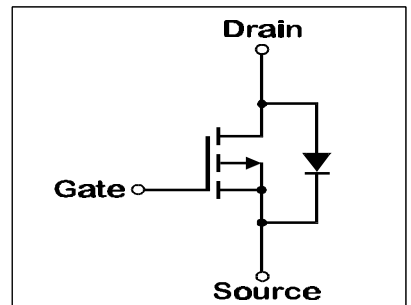


> Maximum Ratings and Characteristics

- Absolute Maximum Ratings ($T_C=25^\circ\text{C}$), unless otherwise specified

Item	Symbol	Rating	Unit
Drain-Source-Voltage	V_{DS}	-60	V
Drain-Gate-Voltage($R_{GS}=20K\Omega$)	V_{DGR}	-60	V
Continous Drain Current	I_D	-5	A
Pulsed Drain Current	$I_{D(puls)}$	-20	A
Gate-Source-Voltage	V_{GS}	± 20	V
Max. Power Dissipation	P_D	20	W
Operating and Storage Temperature Range	T_{ch}	150	$^\circ\text{C}$
	T_{stg}	-55 ~ +150	$^\circ\text{C}$

> Equivalent Circuit



- Electrical Characteristics ($T_C=25^\circ\text{C}$), unless otherwise specified

Item	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown-Voltage	$V_{(BR)DSS}$	$I_D=1\text{mA}$ $V_{GS}=0\text{V}$	-60			V
Gate Threshold Voltage	$V_{GS(th)}$	$I_D=1\text{mA}$ $V_{DS}=V_{GS}$	-1,0	-1,5	-2,5	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-60\text{V}$ $T_{ch}=25^\circ\text{C}$		-10	-500	μA
		$V_{GS}=0\text{V}$ $T_{ch}=125^\circ\text{C}$		-0,2	-1,0	mA
Gate Source Leakage Current	I_{GSS}	$V_{GS}=\pm 20\text{V}$ $V_{DS}=0\text{V}$		10	100	nA
Drain Source On-State Resistance	$R_{DS(on)}$	$I_D=-2,5\text{A}$ $V_{GS}=-4\text{V}$		0,28	0,48	Ω
		$I_D=-2,5\text{A}$ $V_{GS}=-10\text{V}$		0,2	0,3	Ω
Forward Transconductance	g_{fs}	$I_D=-2,5\text{A}$ $V_{DS}=-25\text{V}$	2	4,5		S
Input Capacitance	C_{iss}	$V_{DS}=-25\text{V}$ $V_{GS}=0\text{V}$		500	750	pF
Output Capacitance	C_{oss}	$f=1\text{MHz}$		200	300	pF
Reverse Transfer Capacitance	C_{rss}			120	180	pF
Turn-On-Time t_{on} ($t_{on}=t_{d(on)}+t_r$)	$t_{d(on)}$	$V_{CC}=-30\text{V}$ $I_D=-3\text{A}$		15	23	ns
	t_r	$V_{GS}=-10\text{V}$ $R_{GS}=25\Omega$		20	30	ns
Turn-Off-Time t_{off} ($t_{off}=t_{d(off)}+t_f$)	$t_{d(off)}$			100	150	ns
	t_f			80	120	ns
Avalanche Capability	I_{AV}	$L=100\mu\text{H}$ $T_{ch}=25^\circ\text{C}$	-5			A
Continous Reverse Drain Current	I_{DR}	$T_C=25^\circ\text{C}$			-5	A
Pulsed Reverse Drain Current	I_{DRM}	$T_C=25^\circ\text{C}$			-20	A
Diode Forward On-Voltage	V_{SD}	$I_F=2I_{DR}$ $V_{GS}=0\text{V}$ $T_{ch}=25^\circ\text{C}$		-4,0		V
Reverse Recovery Time	t_{rr}	$I_F=I_{DR}$ $V_{GS}=0\text{V}$		80		ns
Reverse Recovery Charge	Q_{rr}	$-dI_F/dt=100\text{A}/\mu\text{s}$ $T_{ch}=25^\circ\text{C}$		0,18		μC

- Thermal Characteristics

Item	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Thermal Resistance	$R_{th(ch-a)}$	channel to air				$^\circ\text{C}/\text{W}$
	$R_{th(ch-c)}$	channel to case			6,25	$^\circ\text{C}/\text{W}$

P-channel MOS-FET			
-60V	0,3Ω	-5A	20W

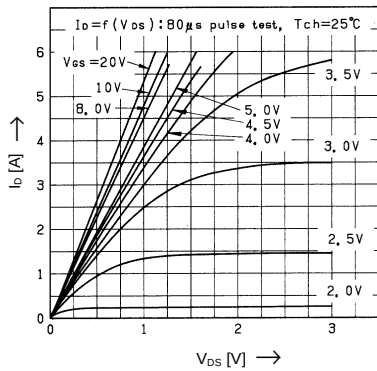
2SJ314-01L,S

FAP-III Series

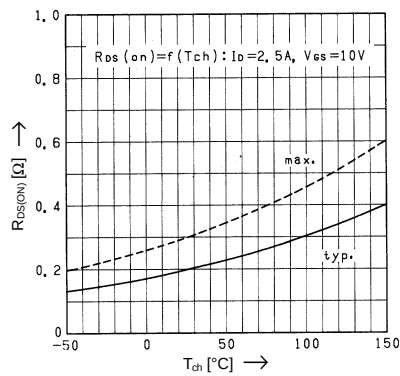
FUJI
ELECTRIC

> Characteristics

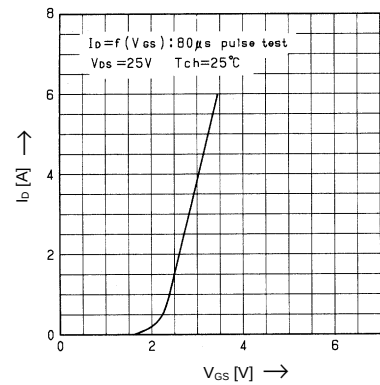
Typical Output Characteristics



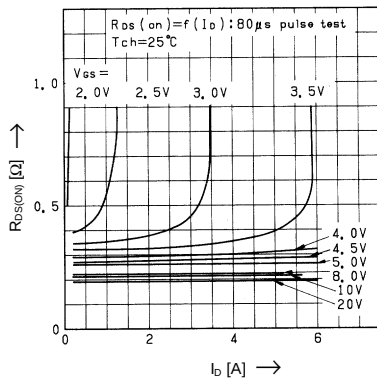
Drain-Source-On-State Resistance vs. T_{ch}



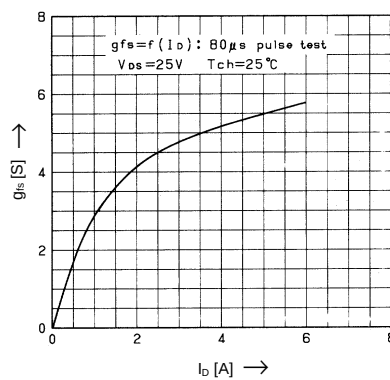
Typical Transfer Characteristics



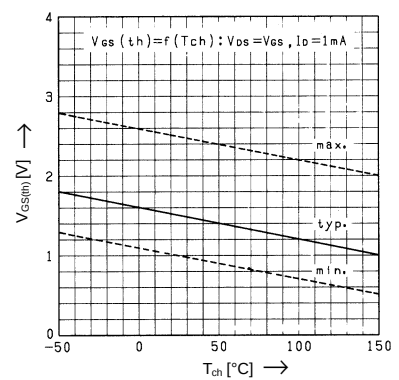
Typical Drain-Source-On-State-Resistance vs. I_D



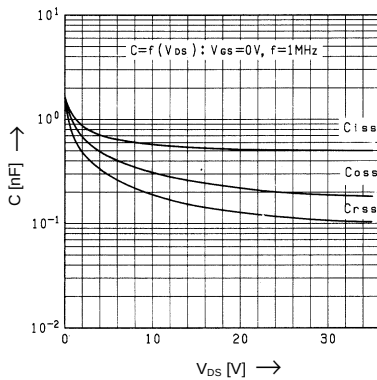
Typical Forward Transconductance vs. I_D



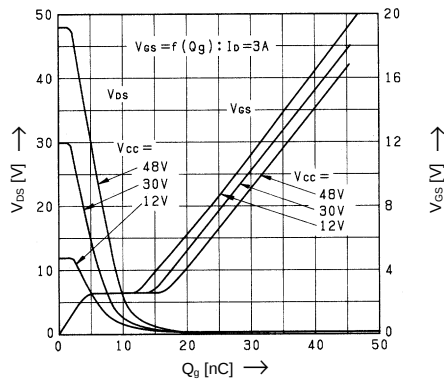
Gate Threshold Voltage vs. T_{ch}



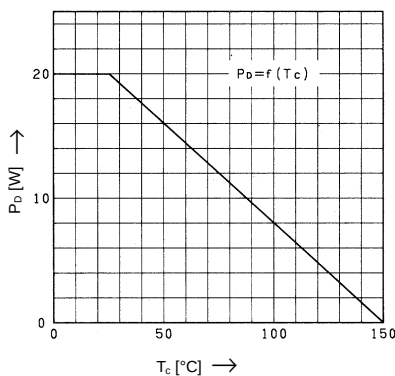
Typical Capacitance vs. V_{DS}



Typical Input Charge



Allowable Power Dissipation vs. T_c



Safe operation area

