

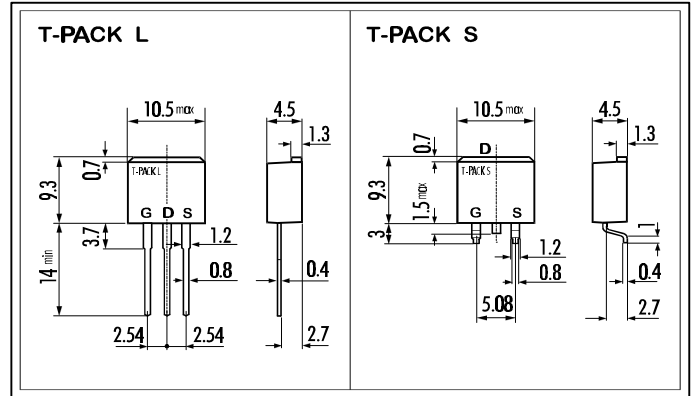
> Features

- High Current
- Low On-Resistance
- No Secondary Breakdown
- Low Driving Power
- Avalanche Rated

> Applications

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

> Outline Drawing

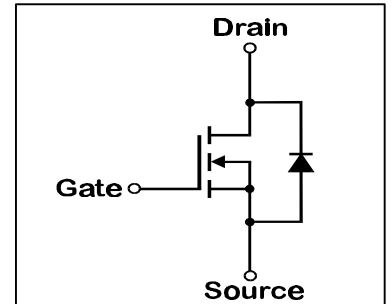


> Maximum Ratings and Characteristics

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

Item	Symbol	Rating	Unit
Drain-Source-Voltage	V_{DS}	600	V
Continuous Drain Current	I_D	±9	A
Pulsed Drain Current	$I_{D(puls)}$	±32	A
Gate-Source-Voltage	V_{GS}	±35	V
Repetitive or non-repetitive	I_{AR}	9	V
Maximum Avalanche Energy	E_{AV}	144.4	mJ*
Max. Power Dissipation	P_D	60	W
Operating and Storage Temperature Range	T_{ch}	150	°C
	T_{stg}	-55 ~ +150	°C

L=3.27mH, $V_{CC}=60V$



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

Item	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown-Voltage	BV_{DSS}	$I_D=1mA$ $V_{GS}=0V$	600			V
Gate Threshold Voltage	$V_{GS(th)}$	$I_D=1mA$ $V_{DS}=V_{GS}$	3,5	4,0	4,5	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=600V$ $T_{ch}=25^\circ\text{C}$		10	500	μA
		$V_{GS}=0V$ $T_{ch}=125^\circ\text{C}$		0,2	1,0	mA
Gate Source Leakage Current	I_{GSS}	$V_{GS}=\pm 35V$ $V_{DS}=0V$		10	100	nA
Drain Source On-State Resistance	$R_{DS(on)}$	$I_D=4,5A$ $V_{GS}=10V$		1,0	1,2	Ω
		$I_D=4,5A$ $V_{GS}=10V$		1,0	1,2	Ω
Forward Transconductance	g_{fs}	$I_D=4,5A$ $V_{DS}=25V$	2,5	5		S
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$		900	1400	pF
Output Capacitance	C_{oss}	$f=1MHz$		150	230	pF
Reverse Transfer Capacitance	C_{rss}			70	110	pF
Turn-On-Time t_{on} ($t_{on}=t_{d(on)}+t_r$)	$t_{d(on)}$	$V_{CC}=300V$ $V_{GS}=10V$ $I_D=9A$ $R_{GS}=10\Omega$		25	40	ns
	t_r			70	110	ns
Turn-Off-Time t_{off} ($t_{off}=t_{d(off)}+t_f$)	$t_{d(off)}$			60	90	ns
	t_f			35	60	ns
Avalanche Capability	I_{AV}	$L=3,27mH$ $T_{ch}=25^\circ\text{C}$	9			A
Diode Forward On-Voltage	V_{SD}	$I_F=2 \times I_{DR}$ $V_{GS}=0V$ $T_{ch}=25^\circ\text{C}$		1,0	1,50	V
Reverse Recovery Time	t_{rr}	$I_F=I_{DR}$ $V_{GS}=0V$		550		ns
Reverse Recovery Charge	Q_{rr}	$-dI_F/dt=100A/\mu s$ $T_{ch}=25^\circ\text{C}$		7,0		μC

- Thermal Characteristics

Item	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance	$R_{th(ch-c)}$			2,08	°C/W
	$R_{th(ch-a)}$			75,0	°C/W

N-channel MOS-FET			
600V	1,2Ω	±9A	60W

2SK2908-01L,S

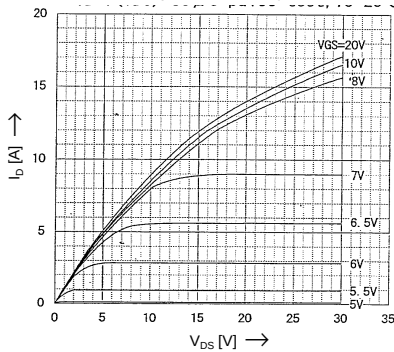
FAP-IIIB Series

FUJII
ELECTRIC

> Characteristics

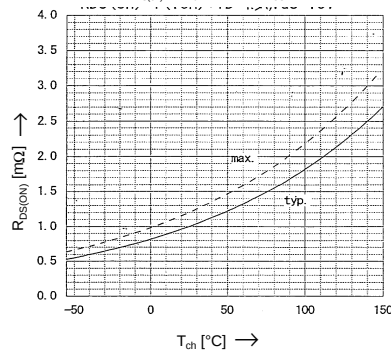
Typical Output Characteristics

$I_D = f(V_{DS})$; 80μs pulse test; $T_{ch}=25^{\circ}\text{C}$



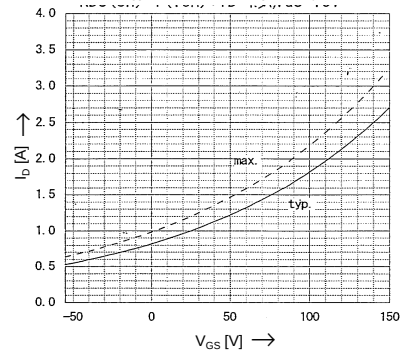
Drain-Source On-State Resistance vs. T_{ch}

$R_{DS(on)} = f(T_{ch})$; $I_D=4.5\text{A}$; $V_{GS}=10\text{V}$



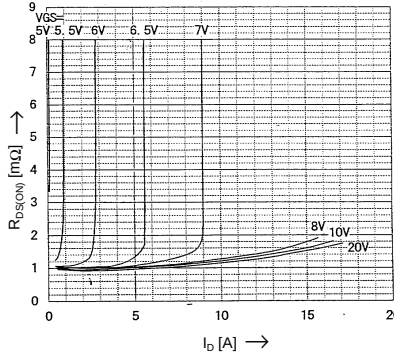
Typical Transfer Characteristics

$I_D = f(V_{GS})$; 80μs pulse test; $V_{DS}=25\text{V}$; $T_{ch}=25^{\circ}\text{C}$



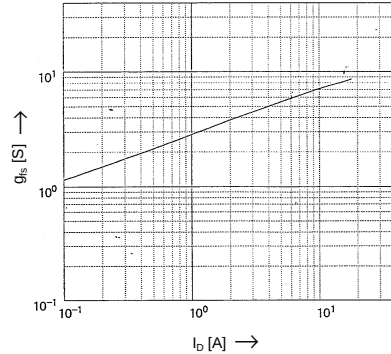
Typical Drain-Source On-State-Resistance vs. I_D

$R_{DS(on)} = f(I_D)$; 80μs pulse test; $T_{ch}=25^{\circ}\text{C}$



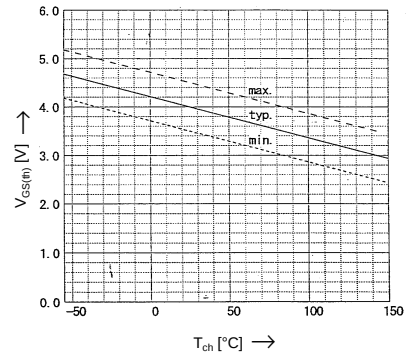
Typical Forward Transconductance vs. I_D

$g_{fs} = f(I_D)$; 80μs pulse test; $V_{DS}=25\text{V}$; $T_{ch}=25^{\circ}\text{C}$



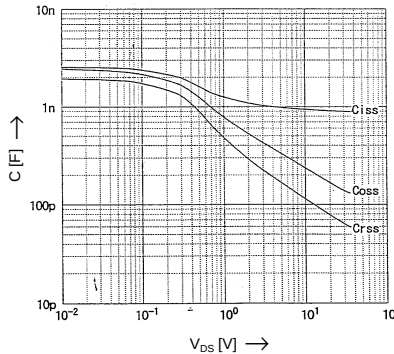
Gate Threshold Voltage vs. T_{ch}

$V_{GS(th)} = f(T_{ch})$; $I_D=1\text{mA}$; $V_{DS}=V_{GS}$



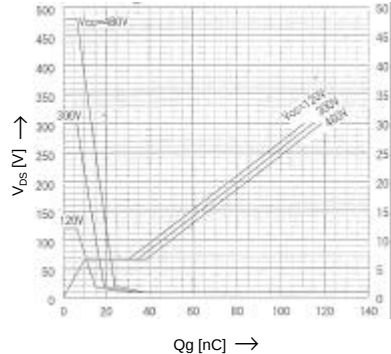
Typical Capacitances vs. V_{DS}

$C = f(V_{DS})$; $V_{GS}=0\text{V}$; $f=1\text{MHz}$



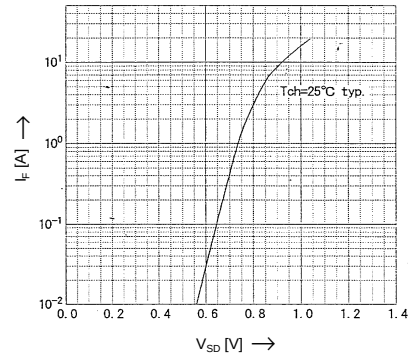
Typical Gate Charge Characteristic

$V_{GS} = f(Q_g)$; $I_D=9\text{A}$; $T_{ch}=25^{\circ}\text{C}$



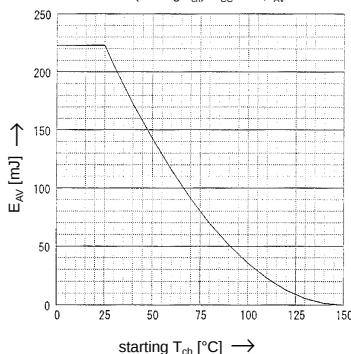
Forward Characteristics of Reverse Diode

$I_F = f(V_{SD})$; 80μs pulse test; $V_{GS}=0\text{V}$



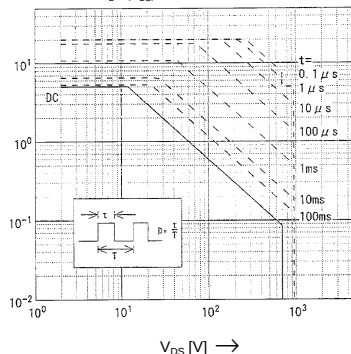
Maximum Avalanche Energy vs. starting T_{ch}

$E_{AS} = f(\text{starting } T_{ch})$; $V_{CC}=60\text{V}$; $I_{AV} \leq 9\text{A}$



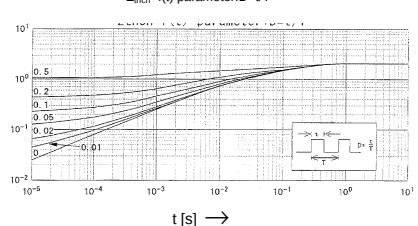
Safe Operation Area

$I_D = f(V_{DS})$; $D=0.01$; $T_c=25^{\circ}\text{C}$



Transient Thermal impedance

$Z_{th(ch-c)} = f(t)$ parameter: $D=1/T$



N-channel MOS-FET			
600V	1,2Ω	±9A	60W

2SK2908-01L,S

FAP-III B Series



> Characteristics

