

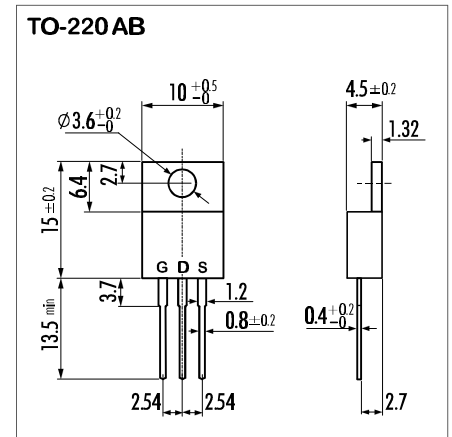
> Features

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

> Applications

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

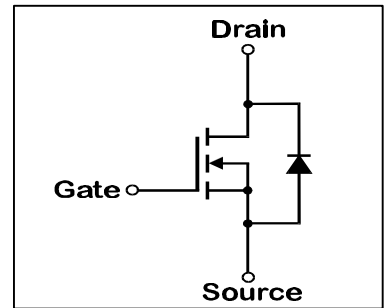
> Outline Drawing



> Maximum Ratings and Characteristics

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

Item	Symbol	Characteristics	Unit
Drain-Source-Voltage	V _{DS}	60	V
Continous Drain Current	I _D	±45	A
Pulsed Drain Current	I _{D(puls)}	±180	A
Gate-Source-Voltage	V _{GS}	±20	V
Maximum Avalanche Energy	E _{AV}	461.9	mJ*
Max. Power Dissipation	P _D	60	W
Operating and Storage Temperature Range	T _{ch}	150	°C
	T _{stg}	-55 ~ +150	°C



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

Item	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown-Voltage	BV _{DSS}	I _D =1mA V _{GS} =0V	60			V
Gate Threshold Voltage	V _{GS(th)}	I _D =1mA V _{DS} =V _{GS}	1	1,5	2,0	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =60V T _{ch} =25°C		10	500	μA
		V _{GS} =0V T _{ch} =125°C		0,2	1,0	mA
Gate Source Leakage Current	I _{DSS}	V _{GS} =±20V V _{DS} =0V		10	100	nA
Drain Source On-State Resistance	R _{DS(on)}	ID=22,5A V _{GS} =4V		15	20	
		ID=22,5A V _{GS} =10V		10	12	mΩ
Forward Transconductance	g _{fs}	I _D =22,5A V _{DS} =25V	15	35		S
Input Capacitance	C _{iss}	V _{DS} =25V		2900	4350	pF
Output Capacitance	C _{oss}	V _{GS} =0V		930	1400	pF
Reverse Transfer Capacitance	C _{rss}	f=1MHz		260	390	pF
Turn-On-Time t _{on} (t _{on} =t _{d(on)} +t _r)	t _{d(on)}	V _{CC} =30V		13	30	ns
		V _{GS} =10V		35	50	ns
Turn-Off-Time t _{off} (t _{off} =t _{d(off)} +t _f)	t _{d(off)}	I _D =45A		190	290	ns
		R _{GS} =10 Ω		75	140	ns
Avalanche Capability	I _{AV}	L = 100μH T _{ch} =25°C	45			A
Diode Forward On-Voltage	V _{SD}	I _F =45A V _{GS} =0V T _{ch} =25°C		0,95	1,43	V
Reverse Recovery Time	t _{rr}	I _F =45A V _{GS} =0V		55		ns
Reverse Recovery Charge	Q _{rr}	-di/dt=100A/μs T _{ch} =25°C		0.10		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			
60V	0,012Ω	±45A	60W

2SK2895-01

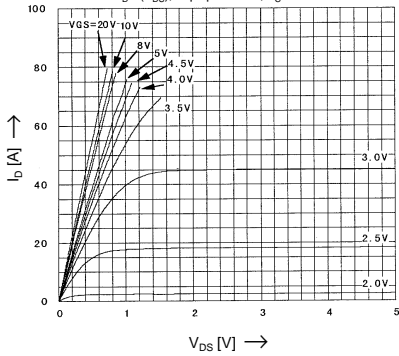
FAP-IIIB Series



> Characteristics

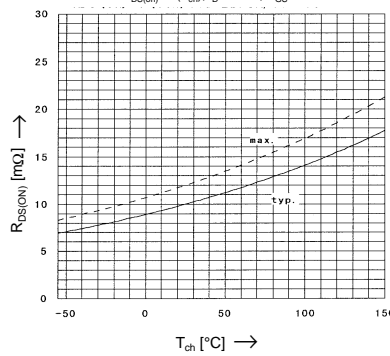
Typical Output Characteristics

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



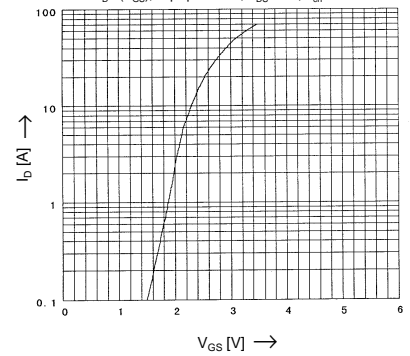
Drain-Source On-State Resistance vs. T_{ch}

$R_{DS(on)} = f(T_{ch})$; $I_D = 22.5\text{A}$; $V_{GS} = 10\text{V}$



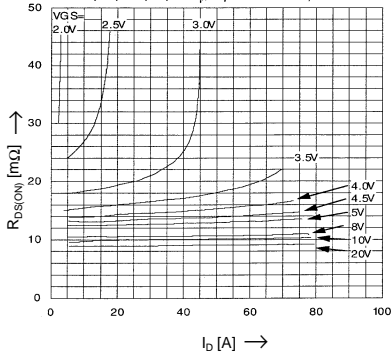
Typical Transfer Characteristics

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



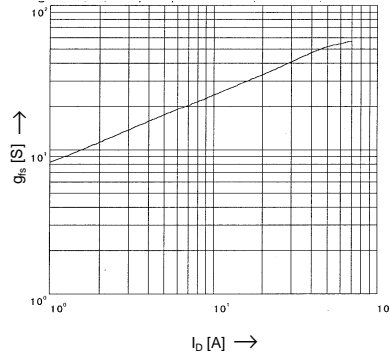
Typical Drain-Source On-State-Resistance vs. I_D

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



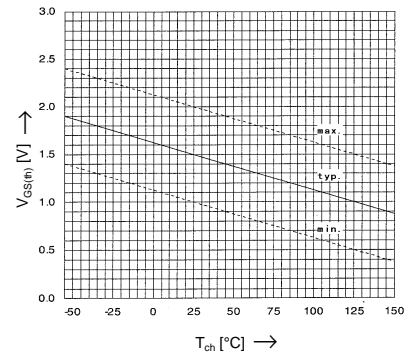
Typical Forward Transconductance vs. I_D

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



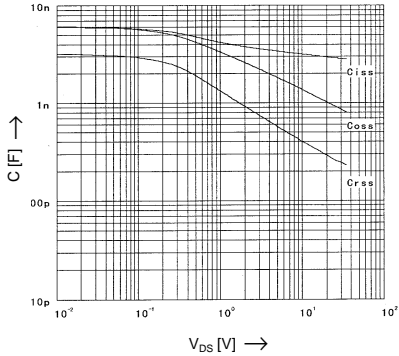
Gate Threshold Voltage vs. T_{ch}

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



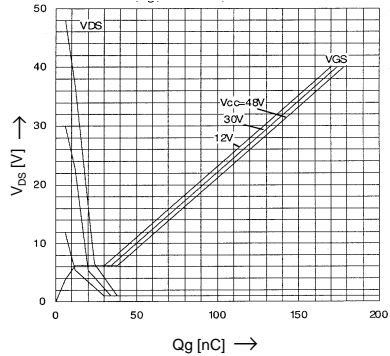
Typical Capacitances vs. V_{DS}

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



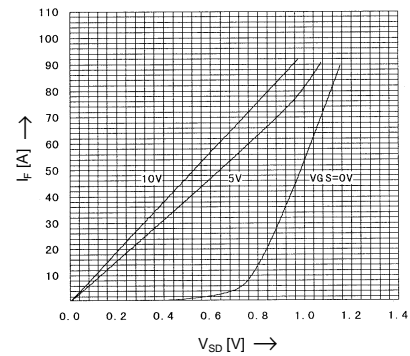
Typical Gate Charge Characteristic

$V_{GS} = f(Q_g)$; $I_D = 45\text{A}$; $T_{ch} = 25^\circ\text{C}$



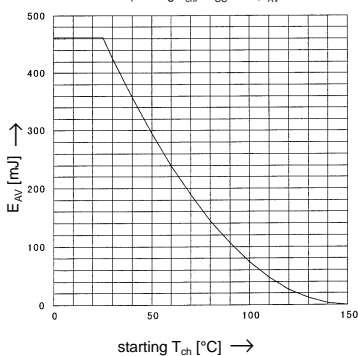
Forward Characteristics of Reverse Diode

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



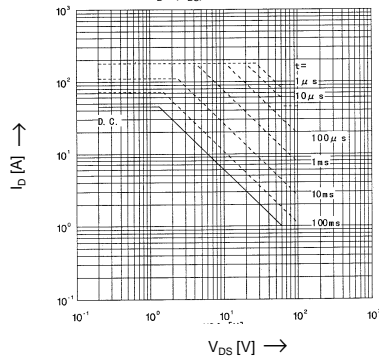
Maximum Avalanche Energy vs. starting T_{ch}

$E_{AV} = f(\text{starting } T_{ch})$; $V_{CC} = 24\text{V}$; $I_{AV} \leq 45\text{A}$



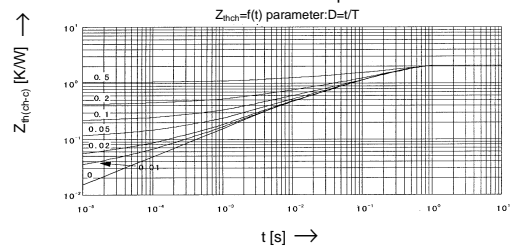
Safe Operation Area

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



Transient Thermal Impedance

$Z_{th(ch-c)} = f(t)$ parameter: $D \sim t$



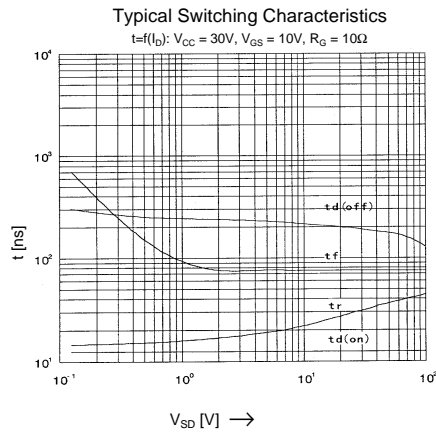
N-channel MOS-FET			
60V	0,012Ω	±45A	60W

2SK2895-01

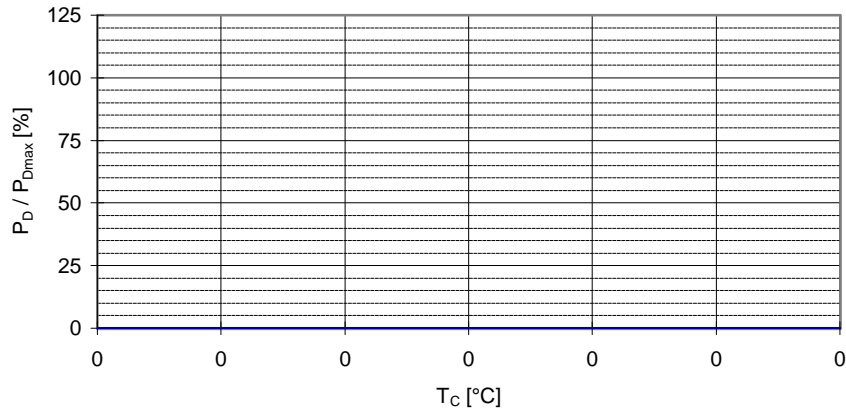
FAP-IIIB Series



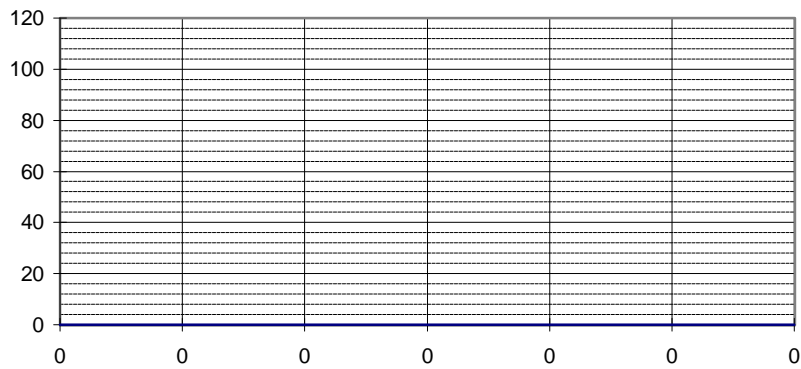
> Characteristics



Power Dissipation $P_D=f(T_C)$



Maximum Avalanche Current vs. starting T_{ch} $I_{AV}=f(\text{starting } T_{ch})$





LittleDiode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

LittleDiode.com

Looking forward to providing you with the best possible service.