

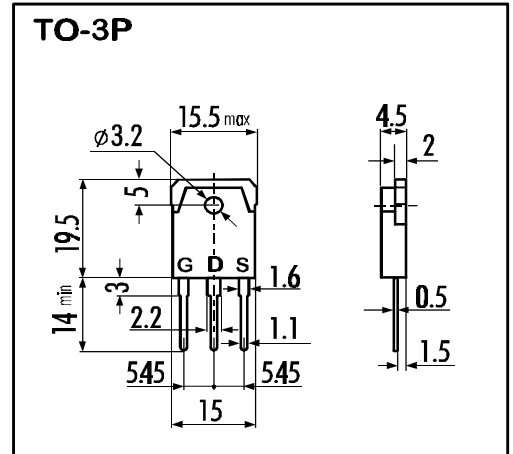
> **Features**

- High Speed Switching
- Low On-Resistance
- No Secondary Breakdown
- Low Driving Power
- High Voltage
- VGS = ± 30V Guarantee
- Repetitive Avalanche Rated

> **Applications**

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

> **Outline Drawing**

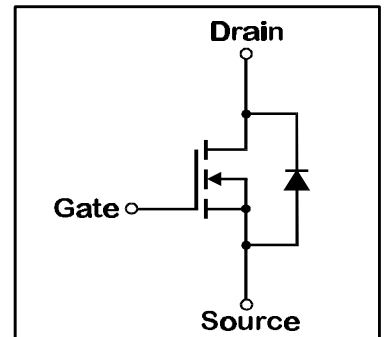


> **Maximum Ratings and Characteristics**

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

Item	Symbol	Rating	Unit
Drain-Source-Voltage	V _{DS}	900	V
Continuous Drain Current	I _D	8	A
Pulsed Drain Current	I _{D(puls)}	32	A
Gate-Source-Voltage	V _{GS}	±30	V
Repetitive or Non-Repetitive (T _{ch} ≤ 150°C)	I _{AR}	8	A
Avalanche Energy	E _{AS}	241	mJ
Max. Power Dissipation	P _D	150	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	900			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} =900V 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 =4A V _{GS} =10V		1,48	2,0	Ω
Forward Transconductance	g _{fs}	I _D =4A V _{DS} =25V		5		S
Input Capacitance	C _{iss}	V _{DS} =25V		1200		pF
Output Capacitance	C _{oss}	V _{GS} =0V		180		pF
Reverse Transfer Capacitance	C _{rss}	f=1MHz		90		pF
Turn-On-Time t _{on} (t _{on} =t _{d(on)} +t _r)	t _{d(on)}	V _{CC} =600V		30		ns
	t _r	I _D =8A		120		ns
Turn-Off-Time t _{off} (t _{off} =t _{d(off)} +t _f)	t _{d(off)}	V _{GS} =10V		95		ns
	t _f	R _{GS} =10 Ω		60		ns
Avalanche Capability	I _{AV}	L = 100μH T _{ch} =25°C	8			A
Diode Forward On-Voltage	V _{SD}	I _F =2I _{DR} V _{GS} =0V T _{ch} =25°C		1,0		V
Reverse Recovery Time	t _{rr}	I _F =I _{DR} V _{GS} =0V		1000		ns
Reverse Recovery Charge	Q _{rr}	-di _F /dt=100A/μs T _{ch} =25°C		12		μC

- Thermal Characteristics

Item	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Thermal Resistance	R _{th(ch-a)}	channel to air			35	°C/W
	R _{th(ch-c)}	channel to case			0,83	°C/W

N-channel MOS-FET			
900V	2Ω	8A	150W

2SK2654-01

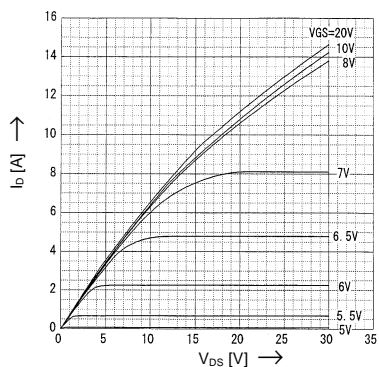
FAP-IIS Series



> Characteristics

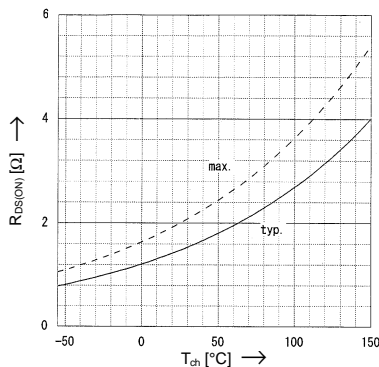
Typical Output Characteristics

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



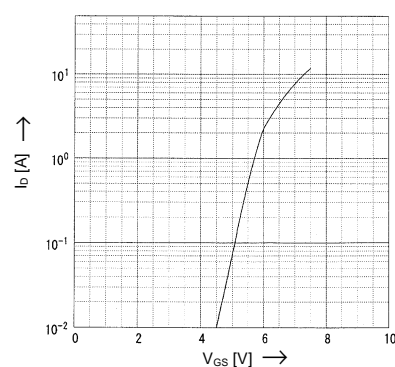
Drain-Source-On-State Resistance vs. T_{ch}

$R_{DS(on)}=f(T_{ch})$; $I_D=4\text{A}$; $V_{GS}=10\text{V}$



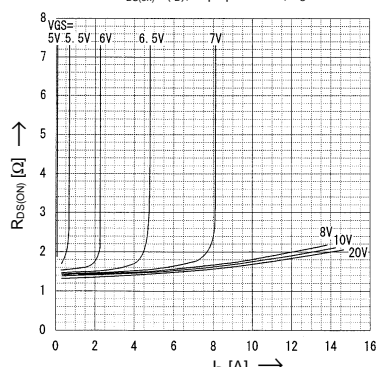
Typical Transfer Characteristics

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



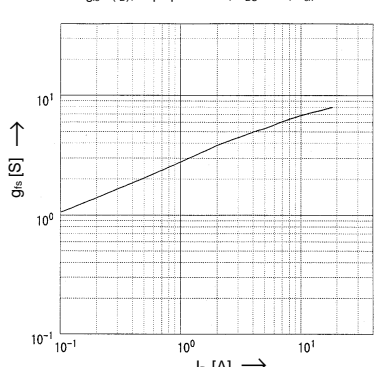
Typical Drain-Source-On-State-Resistance vs. I_D

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



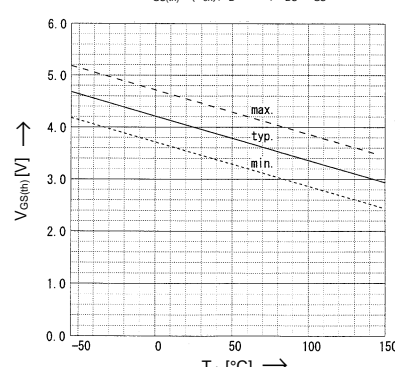
Typical Forward Transconductance vs. I_D

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



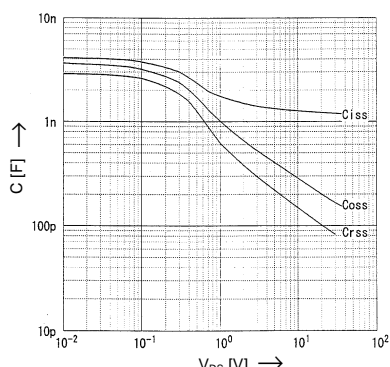
Gate Threshold Voltage vs. T_{ch}

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



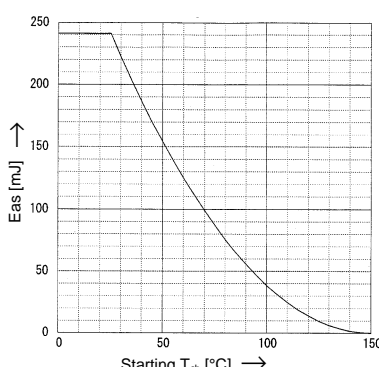
Typical Capacitances vs. V_{DS}

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



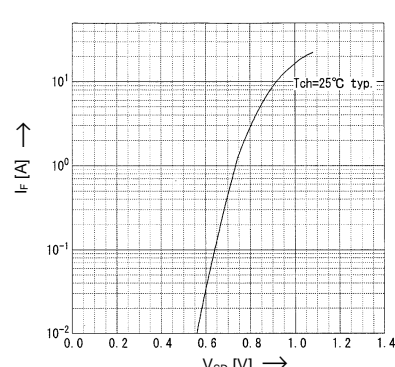
Avalanche Energy Derating

$E_{as}=f(\text{starting } T_{ch})$; $V_{CC}=90\text{V}$; $I_{AV}=8\text{A}$



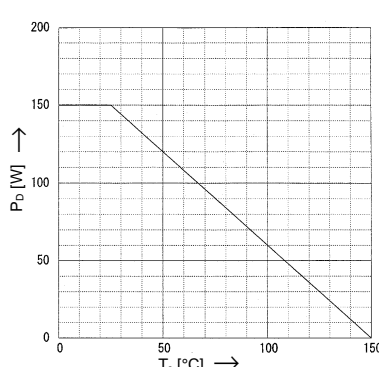
Forward Characteristics of Reverse Diode

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



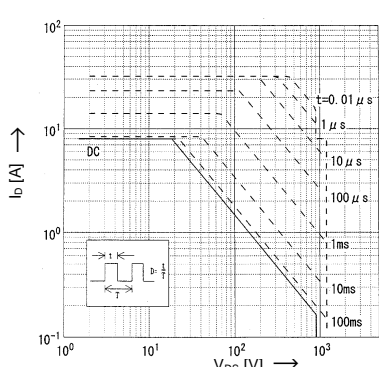
Allowable Power Dissipation vs. T_C

$P_D=f(T_C)$



Safe operation area

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

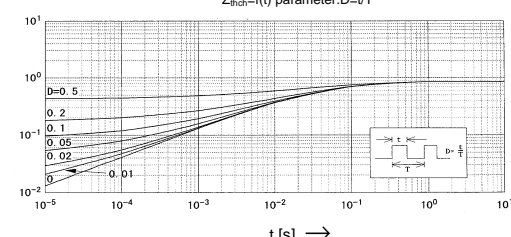


$Z_{th(ch-c)}$

$Z_{th(ch-c)} [\text{K/W}]$

Transient Thermal impedance

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





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.