

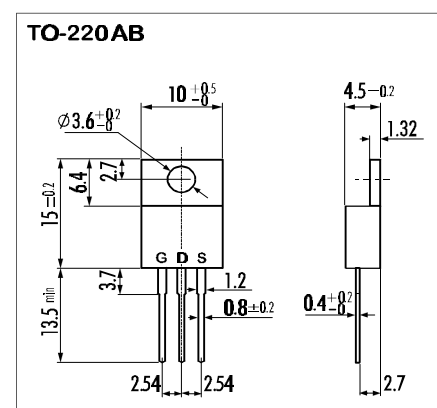
> Features

- 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



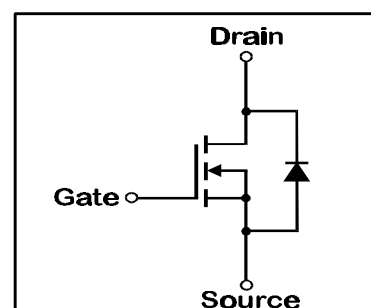
> Maximum Ratings and Characteristics

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

Item	Symbol	Rating	Unit
Drain-Source-Voltage	V _{DS}	30	V
Continuous Drain Current	I _D	35	A
Pulsed Drain Current	I _{D(puls)}	140	A
Gate-Source-Voltage	V _{GS}	±16	V
Maximum Avalanche Energy	E _{AV}	129,3	mJ*
Max. Power Dissipation	P _D	30	W
Operating and Storage Temperature Range	T _{ch}	150	°C
	T _{sta}	-55 ~ +150	°C

* $L=0,07\text{mH}$, $V_{CC}=12\text{V}$

> 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	$V_{(BR)DSS}$	$I_D=1mA$	$V_{GS}=0V$	30			V
Gate Threshold Voltage	$V_{GS(th)}$	$I_D=1mA$	$V_{DS}=V_{GS}$	1,0	1,5	2,0	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V$	$T_{ch}=25^{\circ}C$		10	500	μA
		$V_{GS}=0V$	$T_{ch}=125^{\circ}C$		0,2	1,0	mA
Gate Source Leakage Current	I_{GSS}	$V_{GS}=\pm 16V$	$V_{DS}=0V$		10	100	nA
Drain Source On-State Resistance	$R_{DS(on)}$	$I_D=17,5A$	$V_{GS}=4V$		0,022	0,03	Ω
			$V_{GS}=10V$		0,014	0,02	Ω
Forward Transconductance	g_{fs}	$I_D=17,5A$	$V_{DS}=25V$	16	33		S
Input Capacitance	C_{iss}	$V_{DS}=25V$			1100	1650	pF
Output Capacitance	C_{oss}	$V_{GS}=0V$			550	830	pF
Reverse Transfer Capacitance	C_{rss}	$f=1MHz$			240	360	pF
Turn-On-Time t_{on} ($t_{on}=t_{d(on)}+t_r$)	$t_{d(on)}$	$V_{CC}=15V$			9	15	ns
	t_r	$I_D=35A$			15	23	ns
Turn-Off-Time t_{off} ($t_{on}=t_{d(off)}+t_f$)	$t_{d(off)}$	$V_{GS}=10V$			75	115	ns
	t_f	$R_{GS}=10\ \Omega$			50	75	ns
Avalanche Capability	I_{AV}	$L = 100\mu H$	$T_{ch}=25^{\circ}C$	35			A
Diode Forward On-Voltage	V_{SD}	$I_F=2xI_{DR}$ $V_{GS}=0V$ $T_{ch}=25^{\circ}C$			0,98	1,71	V
Reverse Recovery Time	t_{rr}	$I_F=2xI_{DR}$ $V_{GS}=0V$			50		ns
Reverse Recovery Charge	Q_{rr}	$-dI_F/dt=100A/\mu s$ $T_{ch}=25^{\circ}C$			0,08		μC

- Thermal Characteristics

Item	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Thermal Resistance	$R_{th(ch-a)}$	channel to air			75	°C/W
	$R_{th(ch-c)}$	channel to case			4.16	°C/W

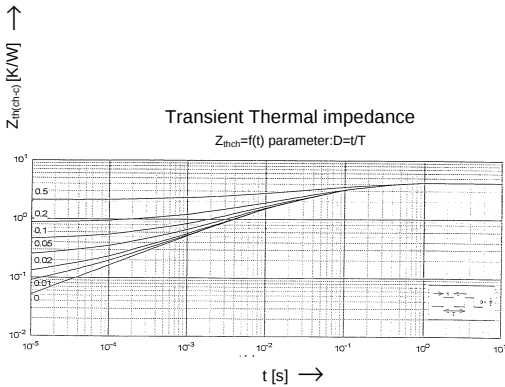
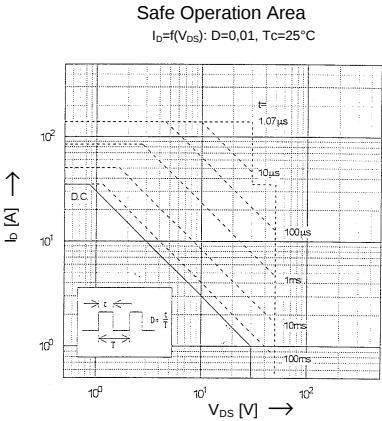
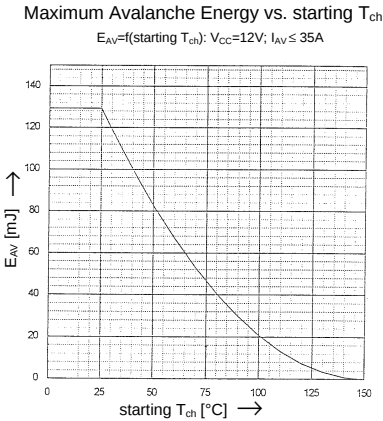
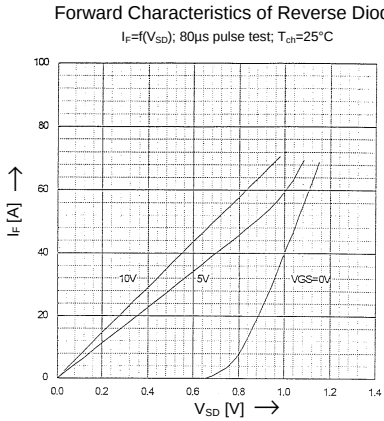
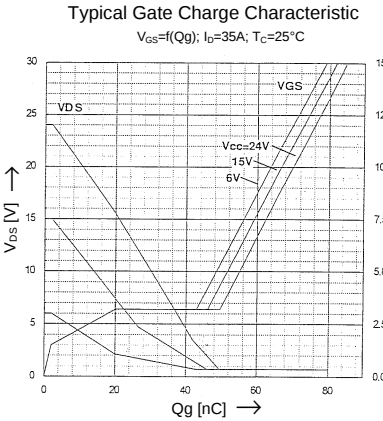
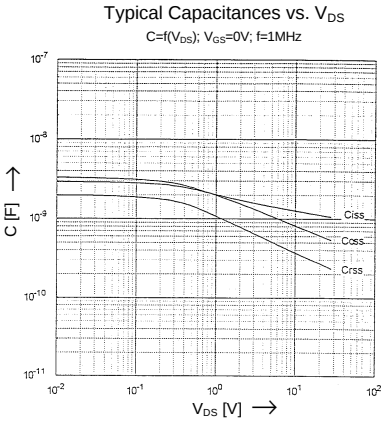
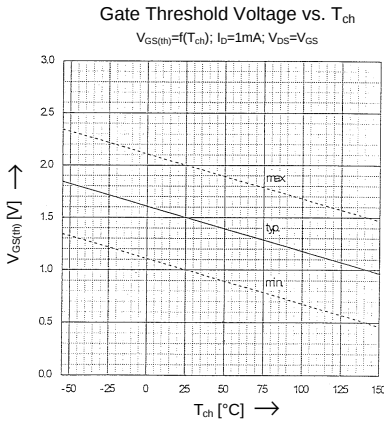
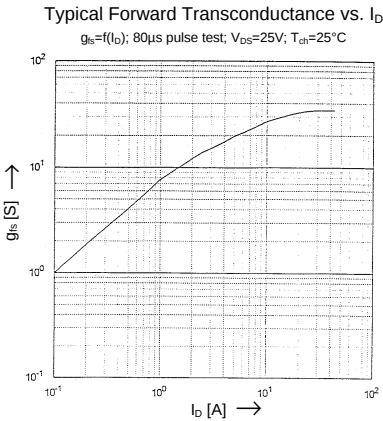
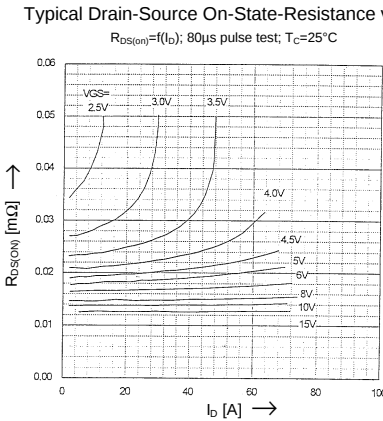
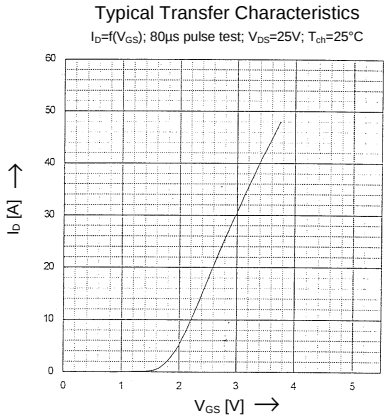
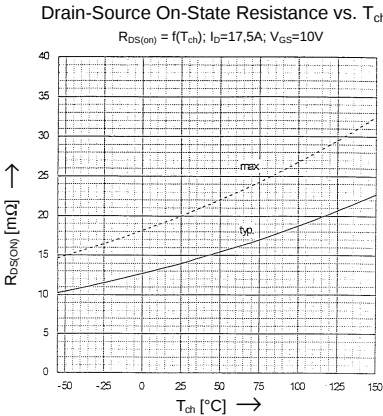
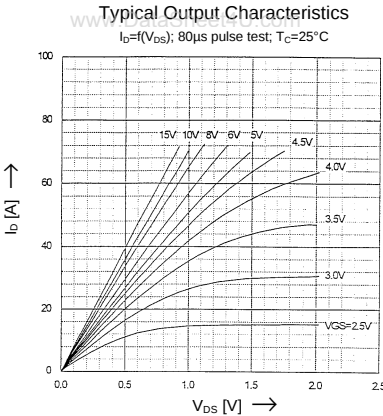
N-channel MOS-FET			
30V	0,02Ω	35A	30W

2SK2806-01

FAP-IIIB Series



> Characteristics



N-channel MOS-FET			
30V	0,02Ω	35A	30W

2SK2806-01

FAP-III B Series



> Characteristics

www.DataSheet4U.com

