

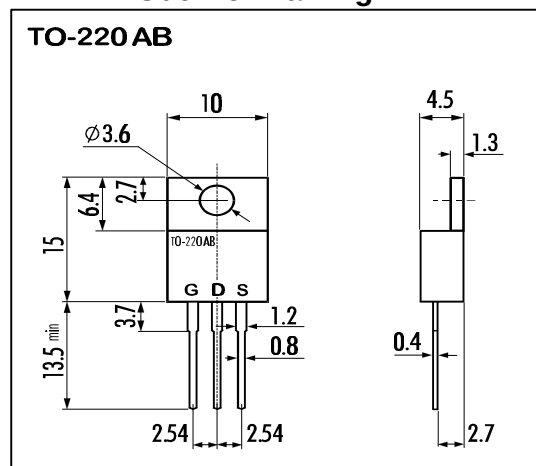
> Features

- High Speed Switching
- Low On-Resistance
- No Secondary Breakdown
- Low Driving Power
- High Voltage
- $V_{GS} = \pm 30V$ Guarantee
- Repetitive Avalanche Rated

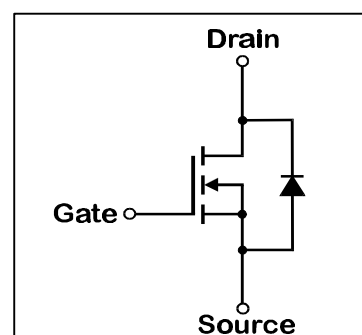
> Applications

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

> Outline Drawing



> Equivalent Circuit



> Maximum Ratings and Characteristics

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

Item	Symbol	Rating	Unit
Drain-Source-Voltage	V_{DS}	500	V
Continuous Drain Current	I_D	±6	A
Pulsed Drain Current	$I_{D(puls)}$	±24	A
Gate-Source-Voltage	V_{GS}	±35	V
Repetitive or Non-Repetitive ($T_{ch} \leq 150^\circ C$)	I_{AR}	6	A
Avalanche Energy	E_{AS}	259.1	mJ
Max. Power Dissipation	P_D	50	W
Operating and Storage Temperature Range	T_{ch}	150	$^\circ C$
	T_{stg}	-55 ~ +150	$^\circ C$

$L=13.2mH, V_{CC}=50V$

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

Item	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown-Voltage	BV_{DSS}	$I_D=1mA$ $V_{GS}=0V$	500			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}	$V_{DS}=500V$ $T_{ch}=25^\circ C$		10	500	μA
		$V_{GS}=0V$ $T_{ch}=125^\circ C$		0,2	1,0	mA
Gate Source Leakage Current	I_{GSS}	$V_{GS}=\pm 35V$ $V_{DS}=0V$		10	100	nA
Drain Source On-State Resistance	$R_{DS(on)}$	$I_D=3A$ $V_{GS}=10V$		1,25	1,5	Ω
Forward Transconductance	g_{fs}	$I_D=3A$ $V_{DS}=25V$	2	4		S
Input Capacitance	C_{iss}	$V_{DS}=25V$		540	810	pF
Output Capacitance	C_{oss}	$V_{GS}=0V$		100	150	pF
Reverse Transfer Capacitance	C_{rss}	$f=1MHz$		45	70	pF
Turn-On-Time t_{on} ($t_{on}=t_{d(on)}+t_r$)	$t_{d(on)}$	$V_{CC}=300V$		13	20	ns
	t_r	$I_D=6A$		40	60	ns
Turn-Off-Time t_{off} ($t_{off}=t_{d(off)}+t_f$)	$t_{d(off)}$	$V_{GS}=10V$		30	45	ns
	t_f	$R_{GS}=10\Omega$		25	40	ns
Avalanche Capability	I_{AV}	$L=13,2mH$ $T_{ch}=25^\circ C$	6			A
Diode Forward On-Voltage	V_{SD}	$I_F=2I_{DR}$ $V_{GS}=0V$ $T_{ch}=25^\circ C$		1,0	1,50	V
Reverse Recovery Time	t_{rr}	$I_F=I_{DR}$ $V_{GS}=0V$		450		ns
Reverse Recovery Charge	Q_{rr}	$-di_F/dt=100A/\mu s$ $T_{ch}=25^\circ C$		3,2		μC

- Thermal Characteristics

Item	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Thermal Resistance	$R_{th(ch-c)}$	channel to case			2,5	$^\circ C/W$
	$R_{th(ch-a)}$	channel to air			75,0	$^\circ C/W$

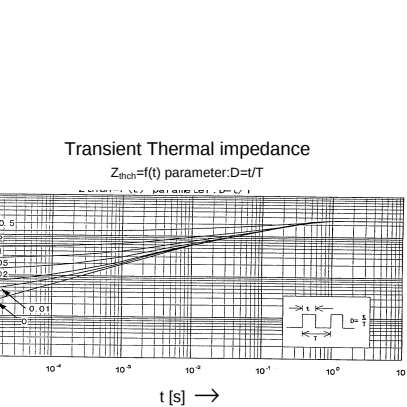
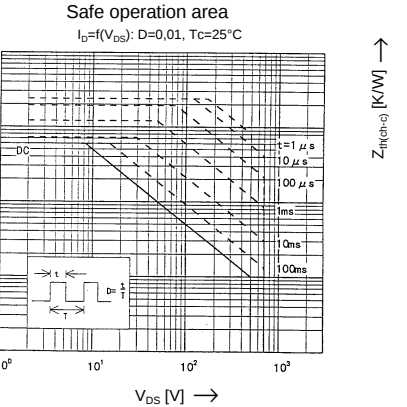
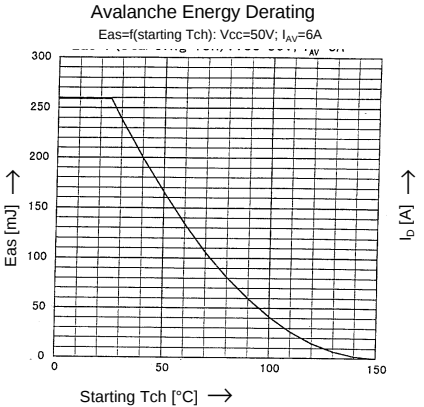
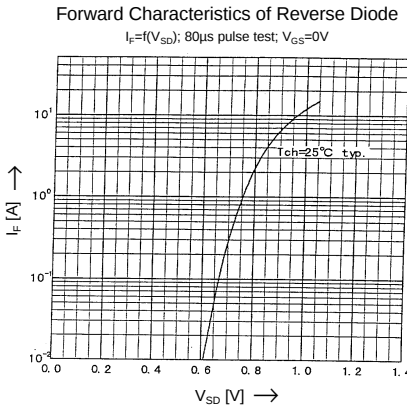
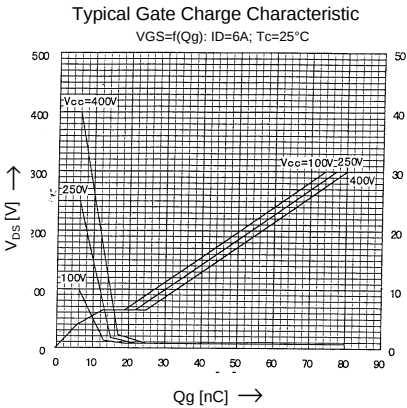
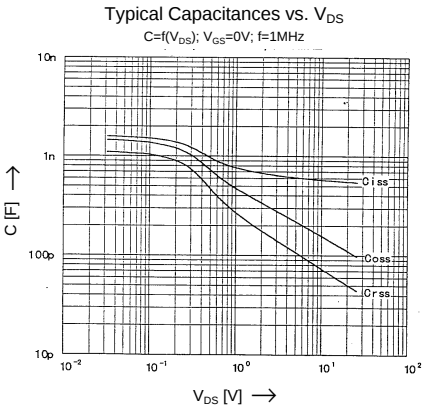
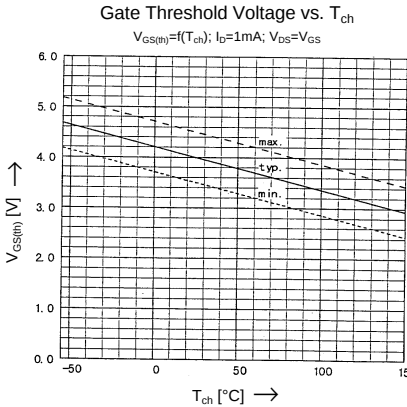
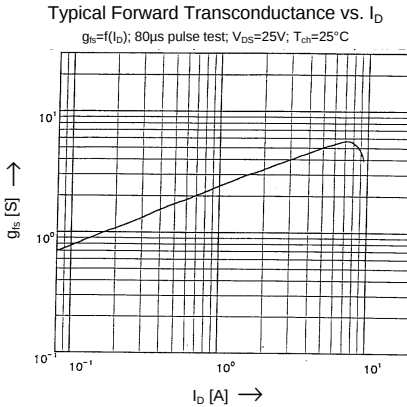
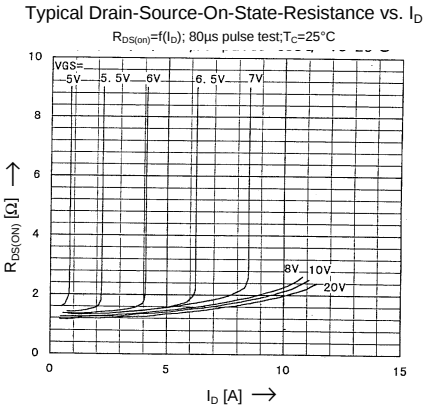
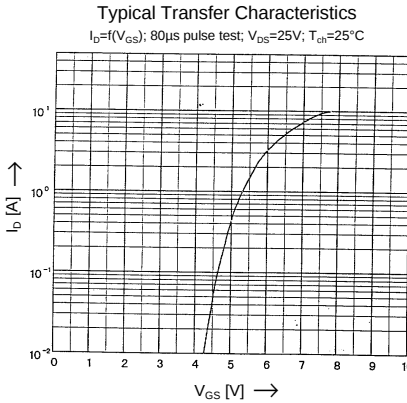
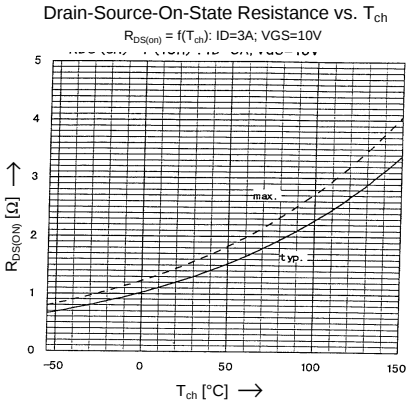
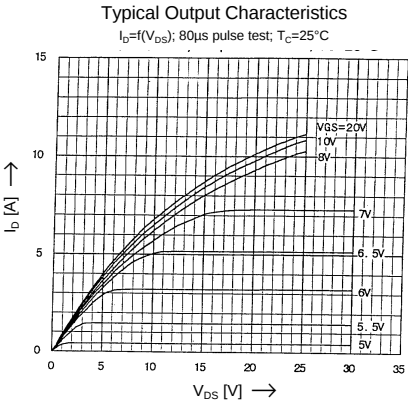
N-channel MOS-FET			
500V	1,5Ω	±6A	50W

2SK2875-01

FAP-IIS Series



> Characteristics



> Characteristics

