

### > Features

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

### > Applications

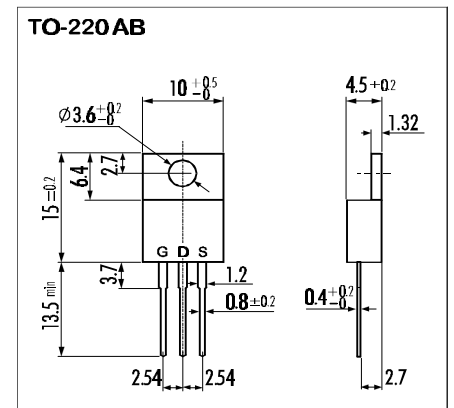
- Switching Regulators
- UPS
- DC-DC converters
- General Purpose Power Amplifier

### > Maximum Ratings and Characteristics

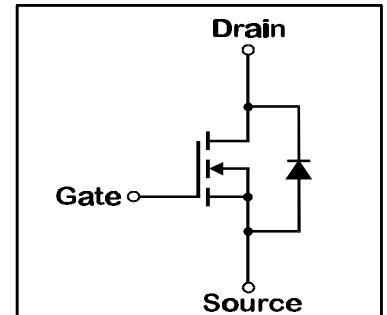
- Absolute Maximum Ratings ( $T_C=25^\circ C$ ), unless otherwise specified

Item	Symbol	Rating	Unit
Drain-Source-Voltage	$V_{DS}$	600	V
Drain-Gate-Voltage ( $R_{GS}=20K\Omega$ )	$V_{DGR}$	600	V
Continous Drain Current	$I_D$	8	A
Pulsed Drain Current	$I_{D(puls)}$	32	A
Gate-Source-Voltage	$V_{GS}$	$\pm 30$	V
Max. Power Dissipation	$P_D$	80	W
Operating and Storage Temperature Range	$T_{ch}$	150	$^\circ C$
	$T_{stg}$	-55 ~ +150	$^\circ C$

### > Outline Drawing



### > Equivalent Circuit



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

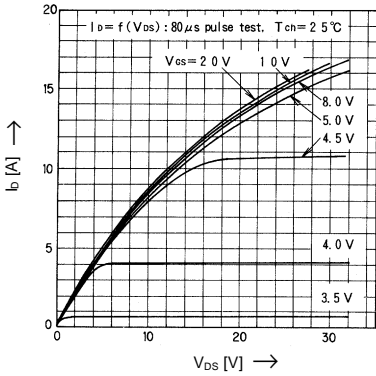
Item	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown-Voltage	$V_{(BR)DSS}$	$I_D=1mA$ $V_{GS}=0V$	600			V
Gate Threshold Voltage	$V_{GS(th)}$	$I_D=1mA$ $V_{DS}=V_{GS}$	2,5	3,0	3,5	V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=600V$ $T_{ch}=25^\circ C$		10	500	$\mu A$
		$V_{GS}=0V$ $T_{ch}=125^\circ C$		0,2	1,0	mA
Gate Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 30V$ $V_{DS}=0V$		10	100	nA
Drain Source On-State Resistance	$R_{DS(on)}$	$I_D=4A$ $V_{GS}=10V$		1,0	1,2	$\Omega$
Forward Transconductance	$g_{fs}$	$I_D=4A$ $V_{DS}=25V$	4	8		S
Input Capacitance	$C_{iss}$	$V_{DS}=25V$		1500	2200	pF
Output Capacitance	$C_{oss}$	$V_{GS}=0V$		140	210	pF
Reverse Transfer Capacitance	$C_{rss}$	$f=1MHz$		30	45	pF
Turn-On-Time $t_{on}$ ( $t_{on}=t_{d(on)}+t_r$ )	$t_{d(on)}$	$V_{CC}=300V$		20	30	ns
		$I_D=8A$		30	45	ns
Turn-Off-Time $t_{off}$ ( $t_{off}=t_{d(off)}+t_f$ )	$t_{d(off)}$	$V_{GS}=10V$		90	135	ns
		$R_{GS}=10\Omega$		50	75	ns
Avalanche Capability	$I_{AV}$	$L=100\mu H$ $T_{ch}=25^\circ C$	8			A
Continous Reverse Drain Current	$I_{DR}$				8	A
Pulsed Reverse Drain Current	$I_{DRM}$				32	A
Diode Forward On-Voltage	$V_{SD}$	$I_F=2I_{DR}$ $V_{GS}=0V$ $T_{ch}=25^\circ C$		1,0	1,5	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		$\mu C$

- Thermal Characteristics

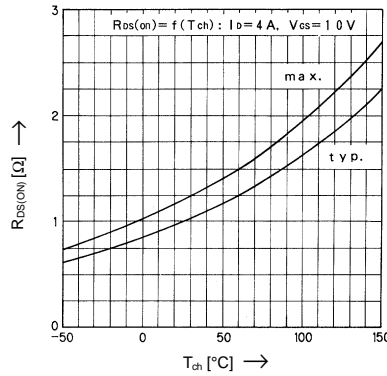
Item	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Thermal Resistance	$R_{th(ch-a)}$	channel to air			75	$^\circ C/W$
	$R_{th(ch-c)}$	channel to case			1,56	$^\circ C/W$

> **Characteristics**

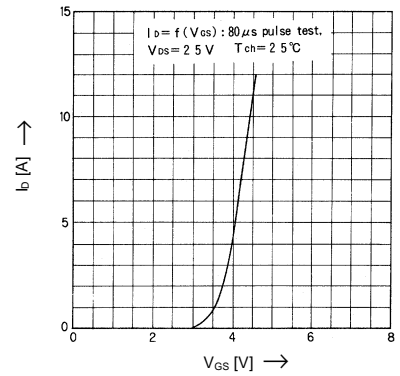
Typical Output Characteristics



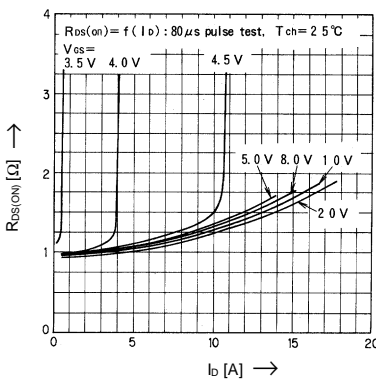
Drain-Source-On-State Resistance vs. Tch



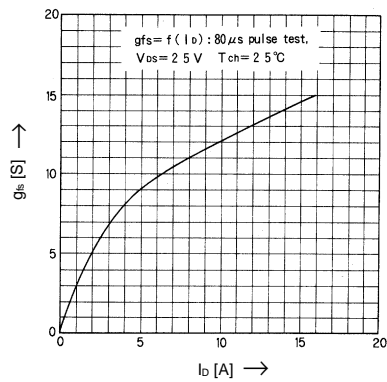
Typical Transfer Characteristics



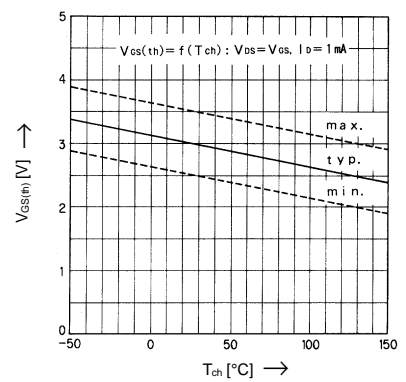
Typical Drain-Source-On-State-Resistance vs. Id



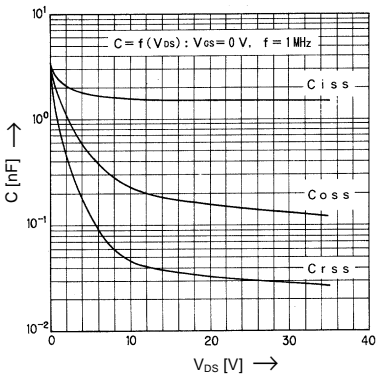
Typical Forward Transconductance vs. Id



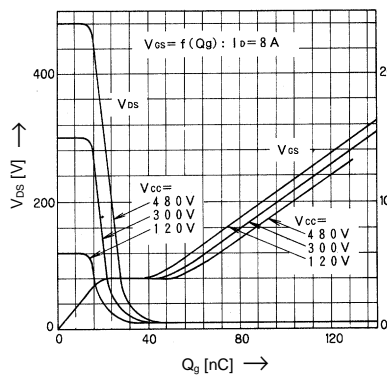
Gate Threshold Voltage vs. Tch



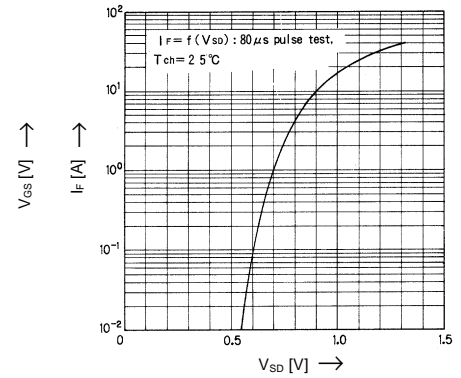
Typical Capacitance vs. Vds



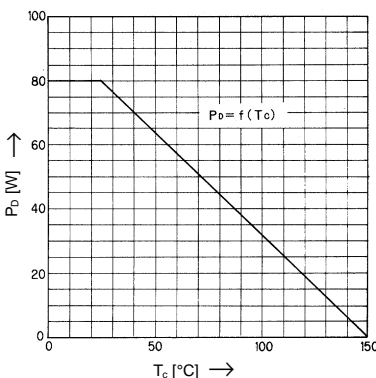
Typical Input Charge



Forward Characteristics of Reverse Diode



Allowable Power Dissipation vs. Tc



Safe operation area

