

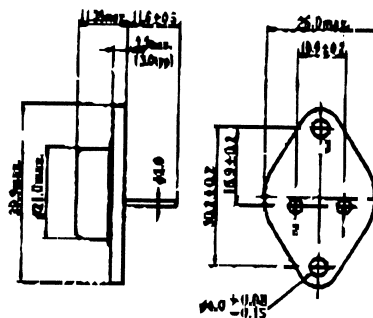
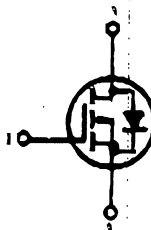
2SJ116

SILICON P-CHANNEL MOS FET

**HIGH SPEED POWER SWITCHING,
HIGH FREQUENCY POWER AMPLIFIER**
Complementary Pair with 2SK298, 2SK312

■ FEATURES

- Low On-Resistance.
- High Speed Switching.
- High Cutoff Frequency.
- No Secondary Breakdown.
- Suitable for Switching Regulator, DC-DC Converter, RF Amplifiers, and Ultrasonic Power Oscillators.



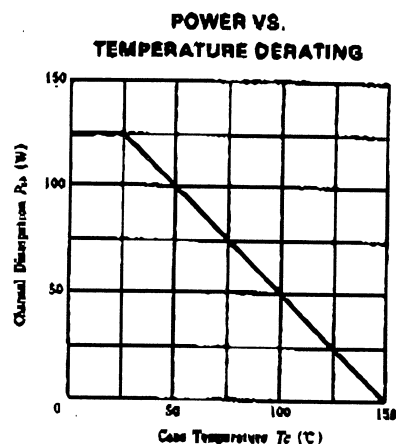
1. Gate
2. Source
3. Drain
(Case)
(Dimensions in mm)

(JEDEC TO-3)

■ ABSOLUTE MAXIMUM RATINGS ($T_c=25^\circ\text{C}$)

Item	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-400	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current	I_D	-8	A
Drain Peak Current	I_{Dpeak}	-15	A
Body-Drain Diode Reverse Drain Current	I_{BR}	-8	A
Channel Dissipation	P_{ch}^*	125	W
Channel Temperature	T_{ch}	160	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 - +150	$^\circ\text{C}$

*Value at $T_c=25^\circ\text{C}$

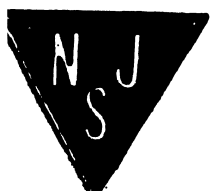


■ ELECTRICAL CHARACTERISTICS ($T_c=25^\circ\text{C}$)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Drain-Source Breakdown Voltage	$V_{DS(BR)}$	$I_D=-10\text{mA}, V_{GS}=0$	-400	—	—	V
Gate-Source Leak Current	I_{GSS}	$V_{GS}=\pm 20\text{V}, V_{DS}=0$	—	—	± 1	μA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-320\text{V}, V_{GS}=0$	—	—	-1	mA
Gate-Source Cutoff Voltage	$V_{GS(off)}$	$I_D=-1\text{mA}, V_{DS}=-10\text{V}$	-0.8	—	-5.0	V
Static Drain-Source On State Resistance	$R_{DS(on)}$	$I_D=-4\text{A}, V_{GS}=-15\text{V}^*$	—	1.75	2.25	Ω
Drain-Source Saturation Voltage	$V_{DS(sat)}$	$I_D=-4\text{A}, V_{GS}=-15\text{V}^*$	—	-7.0	-9.0	V
Forward Transfer Admittance	$ y_{fs} $	$I_D=-4\text{A}, V_{DS}=-20\text{V}^*$	1.0	1.8	—	S
Input Capacitance	C_{iss}	$V_{DS}=-10\text{V}, V_{GS}=0, f=1\text{MHz}$	—	1400	—	pF
Output Capacitance	C_{oss}		—	330	—	pF
Reverse Transfer Capacitance	C_{rss}		—	25	—	pF
Turn-on Delay Time	t_{don}	$I_D=-2\text{A}, V_{GS}=-15\text{V}$ $R_L=15\Omega$	—	15	—	ns
Rise Time	t_r		—	45	—	ns
Turn-off Delay Time	t_{doff}		—	160	—	ns
Fall Time	t_f		—	60	—	ns
Body-Drain Diode Forward Voltage	V_{DF}	$I_F=-4\text{A}, V_{GS}=0$	—	-0.9	—	V
Body-Drain Diode Reverse Recovery Time	t_r	$I_F=-4\text{A}, V_{DS}=0$ $di/dt=100\text{A}/\mu\text{s}$	—	400	—	ns

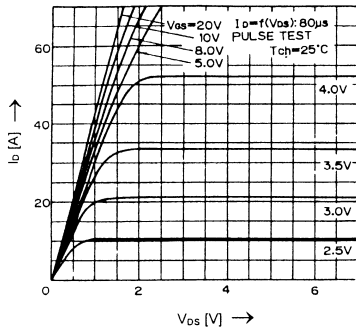
*Pulse Test

NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

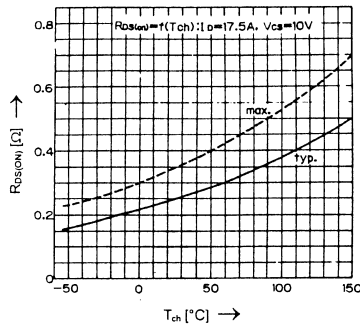


Characteristics

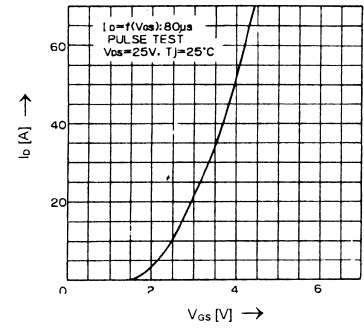
Typical Output Characteristics



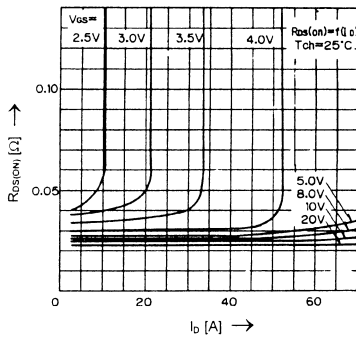
Drain-Source-On-State Resistance vs. T_{ch}



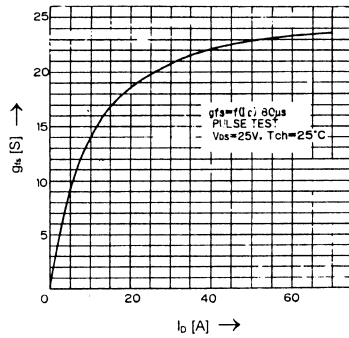
Typical Transfer Characteristics



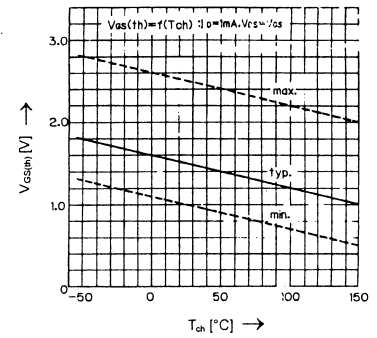
Typical Drain-Source-On-State-Resistance vs. I_D



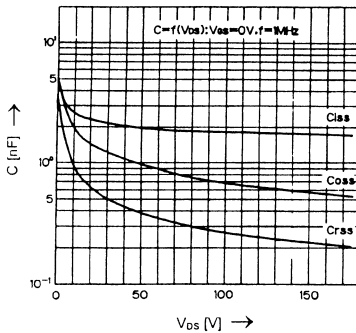
Typical Forward Transconductance vs. I_D



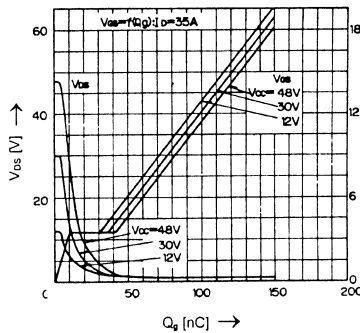
Gate Threshold Voltage vs. T_{ch}



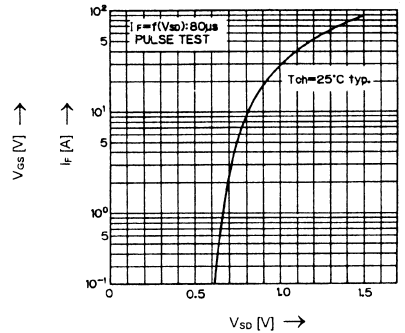
Typical Capacitance vs. V_{DS}



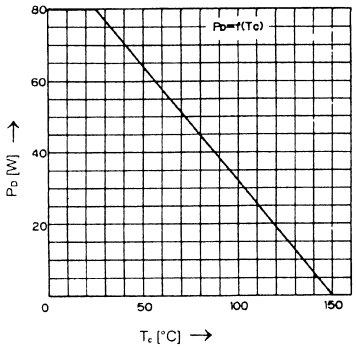
Typical Input Charge



Forward Characteristics of Reverse Diode



Allowable Power Dissipation vs. T_c



Safe operation area

