

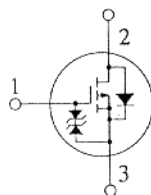
## 2SJ216

### SILICON P-CHANNEL MOS FET

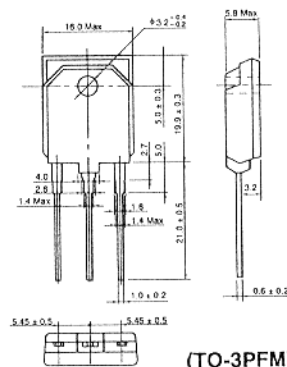
#### HIGH SPEED POWER SWITCHING

#### FEATURES

- Low On-Resistance
- High Speed Switching
- Low Drive Current
- 4 V Gate Drive Device
  - Can be driven from 5V source
- Suitable for Motor Drive, DC-DC Converter, Power Switch and Solenoid Drive



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



(TO-3PFM)

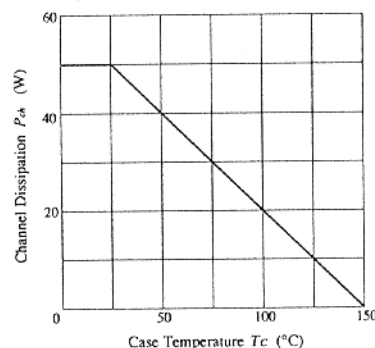
#### ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Item	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	-60	V
Gate-Source Voltage	$V_{GS}$	± 20	V
Drain Current	$I_D$	-35	A
Drain Peak Current	$I_D (pulse)^*$	-140	A
Body-Drain Diode Reverse Drain Current	$I_{DR}$	-35	A
Channel Dissipation	$P_{ch}^{**}$	50	W
Channel Temperature	$T_{ch}$	150	°C
Storage Temperature	$T_{stg}$	-55 ~ +150	°C

\*  $PW \leq 10 \mu s$ , duty cycle  $\leq 1\%$

\*\* Value at  $T_c = 25^\circ C$

#### POWER VS. TEMPERATURE DERATING



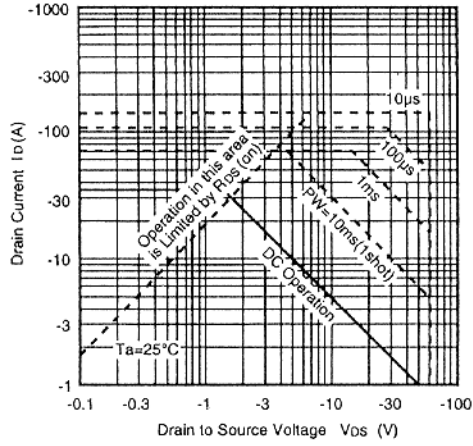
#### ELECTRICAL CHARACTERISTICS (Ta = 25°C)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DS}$	$I_D = -10mA, V_{GS} = 0$	-60	—	—	V
Gate-Source Breakdown Voltage	$V_{(BR)GSS}$	$I_G = \pm 100 \mu A, V_{DS} = 0$	± 20	—	—	V
Gate-Source Leak Current	$I_{GSS}$	$V_{GS} = \pm 16V, V_{DS} = 0$	—	—	± 10	$\mu A$
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = -50V, V_{GS} = 0$	—	—	-250	$\mu A$
Gate-Source Cutoff Voltage	$V_{GS(off)}$	$I_D = -1mA, V_{DS} = -10V$	-1.0	—	-2.0	V
Static Drain-Source on State Resistance	$R_{DS(on)}$	$I_D = -18A, V_{GS} = -10V^*$	—	0.045	0.06	$\Omega$
		$I_D = -18A, V_{GS} = -4V^*$	—	0.07	0.09	$\Omega$
Forward Transfer Admittance	$ y_f $	$I_D = -18A, V_{DS} = -10V^*$	11	18	—	S
Input Capacitance	$C_{iss}$	$V_{DS} = -10A, V_{GS} = 0$	—	2400	—	pF
Output Capacitance	$C_{oss}$	$f = 1MHz$	—	1300	—	pF
Reverse Transfer Capacitance	$C_{rss}$		—	340	—	pF
Turn-On Delay Time	$t_{d(on)}$	$I_D = -15A, V_{GS} = -10V, R_L = 2 \Omega$	—	20	—	ns
Rise Time	$t_r$		—	175	—	ns
Turn-Off Delay Time	$t_{d(off)}$		—	460	—	ns
Fall Time	$t_f$		—	320	—	ns
Body-Drain Diode Forward Voltage	$V_{DF}$	$I_F = -35A, V_{GS} = 0$	—	-1.3	—	V
Body-Drain Diode Reverse Recovery Time	$t_{rr}$	$I_F = -35A, V_{GS} = 0, di_F/dt = 50A/\mu s$	—	250	—	ns

\* Pulse Test

■ See characteristic curves of 2SJ215

### MAXIMUM SAFE OPERATION AREA



### NORMALIZED TRANSIENT THERMAL IMPEDANCE VS. PULSE WIDTH

