

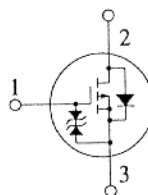
## 2SJ218

### SILICON P-CHANNEL MOS FET

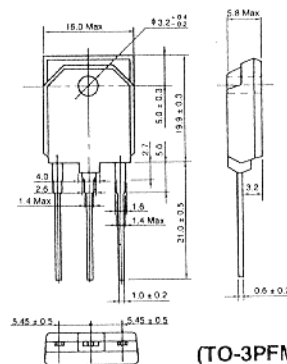
#### HIGH SPEED POWER SWITCHING

#### FEATURES

- Low ON-Resistance
- High Speed Switching
- High Speed Switching
- 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)

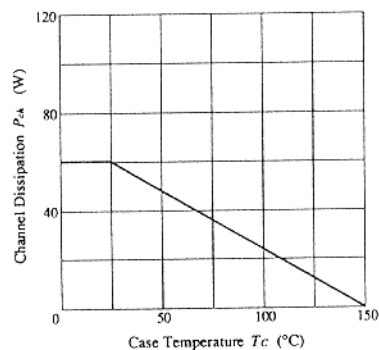
#### ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Item	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	-60	V
Gate-Source Voltage	$V_{GS}$	±20	V
Drain Current	$I_D$	-45	A
Drain Peak Current	$I_D$ (pulse)*	-180	A
Body-Drain Diode	$I_{DR}$	-45	A
Reverse Drain Current			
Channel Dissipation	$P_{ch}$ **	60	W
Channel Temperature	$T_{ch}$	150	°C
Storage Temperature	$T_{slg}$	-55~+150	°C

\* PW ≤ 10 μs, duty cycle ≤ 1%

\*\* Value at Tc=25°C

#### POWER VS. TEMPERATURE DERATING



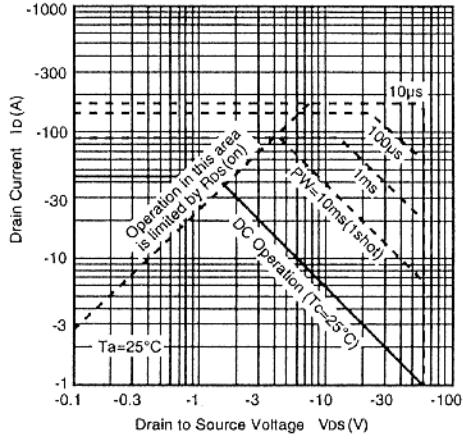
#### ELECTRICAL CHARACTERISTICS (Ta = 25°C)

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	$V_{(BR)GSS}$	$I_G = ±100 μA, V_{DS} = 0$	±20	-	-	V
Gate-Source Leak Current	$I_{GSS}$	$V_{GS} = ±16V, V_{DS} = 0$	-	-	±10	μA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = -50V, V_{GS} = 0$	-	-	-250	μA
Gate-Source Cutoff Voltage	$V_{GS(off)}$	$I_D = -1mA, V_{DS} = -10V$	-1.0	-	-2.0	V
Static Drain-Source on State Resistance	$R_{DS(on)}$	$I_D = -20A, V_{GS} = -10V^*$	-	0.033	0.042	Ω
		$I_D = -20A, V_{GS} = -4V^*$	-	0.045	0.06	
Forward Transfer Admittance	$ y_{fs} $	$I_D = -20A, V_{DS} = -10V^*$	16	25	-	S
Input Capacitance	$C_{iss}$	$V_{DS} = -10V, V_{GS} = 0$ $f = 1MHz$	-	3800	-	pF
Output Capacitance	$C_{oss}$		-	2000	-	pF
Reverse Transfer Capacitance	$C_{rss}$		-	490	-	pF
Turn-On Delay Time	$t_{d(on)}$		-	30	-	ns
Rise Time	$t_r$	$I_D = -20A, V_{GS} = -10V,$ $R_L = 1.5 Ω$	-	235	-	ns
Turn-Off Delay Time	$t_{d(off)}$		-	670	-	ns
Fall Time	$t_f$		-	450	-	ns
Body-Drain Diode Forward Voltage	$V_{DF}$	$I_F = -45A, V_{GS} = 0$	-	-1.35	-	V
Body-Drain Diode Reverse Recovery Time	$t_{rr}$	$I_F = -45A, V_{GS} = 0$ $di_F/dt = 50A/μs$	-	300	-	ns

\* Pulse Test

■ See characteristic curves of 2SJ217

## MAXIMUM SAFE OPERATION AREA



## NORMALIZED TRANSIENT THERMAL IMPEDANCE VS. PULSE WIDTH

