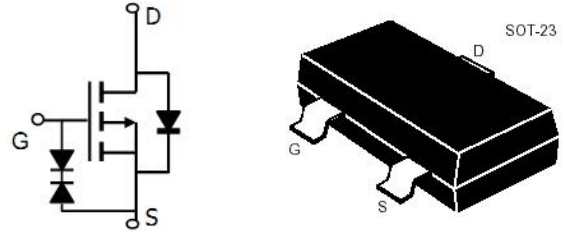




GM3415

SOT-23 場效應晶體管(SOT-23 Field Effect Transistors)



**P-Channel Enhancement-Mode MOS FETs**

**P 溝道增強型 MOS 場效應管**

**■MAXIMUM RATINGS 最大額定值**

Characteristic 特性參數	Symbol 符號	Rat 額定值	Unit 單位
Drain-Source Voltage 漏極-源極電壓	$BV_{DSS}$	-20	V
Gate- Source Voltage 柵極-源極電壓	$V_{GS}$	$\pm 8$	V
Drain Current (continuous) 漏極電流-連續	$I_D$	-4	A
Drain Current (pulsed) 漏極電流-脈沖	$I_{DM}$	-17	A
Total Device Dissipation 總耗散功率 $T_A=25^\circ\text{C}$ 環境溫度為 $25^\circ\text{C}$	$P_D$	1000	mW
Junction 結溫	$T_J$	150	$^\circ\text{C}$
Storage Temperature 儲存溫度	$T_{stg}$	-55to+150	$^\circ\text{C}$

**■DEVICE MARKING 打標**

**GM3415=1F9K**

GM3415

■ELECTRICAL CHARACTERISTICS 電特性

( $T_A=25^{\circ}\text{C}$  unless otherwise noted 如無特殊說明，溫度為  $25^{\circ}\text{C}$ )

Characteristic 特性參數	Symbol 符號	Min 最小值	Typ 典型值	Max 最大值	Unit 單位
Drain-Source Breakdown Voltage 漏極-源極擊穿電壓( $I_D = -250\mu\text{A}, V_{GS}=0\text{V}$ )	$BV_{DSS}$	-20	—	—	V
Gate Threshold Voltage 柵極開啓電壓( $I_D = -250\mu\text{A}, V_{GS}=V_{DS}$ )	$V_{GS(th)}$	-0.3	—	-1	V
Diode Forward Voltage Drop 內附二極管正向壓降( $I_S = -0.75\text{A}, V_{GS}=0\text{V}$ )	$V_{SD}$	—	—	-1.5	V
Zero Gate Voltage Drain Current 零柵壓漏極電流( $V_{GS}=0\text{V}, V_{DS} = -16\text{V}$ ) ( $V_{GS}=0\text{V}, V_{DS} = -16\text{V}, T_A=55^{\circ}\text{C}$ )	$I_{DSS}$	—	—	-1 -10	$\mu\text{A}$
Gate Body Leakage 柵極漏電流( $V_{GS}=\pm 8\text{V}, V_{DS}=0\text{V}$ )	$I_{GSS}$	—	—	$\pm 10$	$\mu\text{A}$
Static Drain-Source On-State Resistance 靜態漏源導通電阻( $I_D = -4\text{A}, V_{GS} = -4.5\text{V}$ )	$R_{DS(ON)}$	—	35	43	$\text{m}\Omega$
Static Drain-Source On-State Resistance 靜態漏源導通電阻( $I_D = -3\text{A}, V_{GS} = -2.5\text{V}$ )	$R_{DS(ON)}$	—	45	54	$\text{m}\Omega$
Static Drain-Source On-State Resistance 靜態漏源導通電阻( $I_D = -2\text{A}, V_{GS} = -1.8\text{V}$ )	$R_{DS(ON)}$	—	56	73	$\text{m}\Omega$
Input Capacitance 輸入電容 ( $V_{GS}=0\text{V}, V_{DS} = -10\text{V}, f=1\text{MHz}$ )	$C_{ISS}$	—	950	—	pF
Output Capacitance 輸出電容 ( $V_{GS}=0\text{V}, V_{DS} = -10\text{V}, f=1\text{MHz}$ )	$C_{OSS}$	—	125	—	pF
Reverse Transfer Capacitance 回饋電容( $V_{GS}=0\text{V}, V_{DS} = -10\text{V}, f=1\text{MHz}$ )	$C_{RSS}$	—	100	—	pF
Total Gate Charge 柵極電荷密度 ( $V_{DS} = -30\text{V}, I_D = -3\text{A}, V_{GS} = -10\text{V}$ )	$Q_g$	—	4	—	nC
Turn-ON Time 開啓時間 ( $V_{DS} = -10\text{V}, I_D = -2.8\text{A}, R_{GEN} = 6\Omega$ )	$t_{(on)}$	—	9.5	—	ns
Turn-OFF Time 關斷時間 ( $V_{DS} = -10\text{V}, I_D = -2.8\text{A}, R_{GEN} = 6\Omega$ )	$t_{(off)}$	—	94	—	ns

Pulse Width  $\leq 300 \mu\text{s}$ ; Duty Cycle  $\leq 2.0\%$

GM3415

■ TYPICAL CHARACTERISTIC CURVE

典型特性曲线

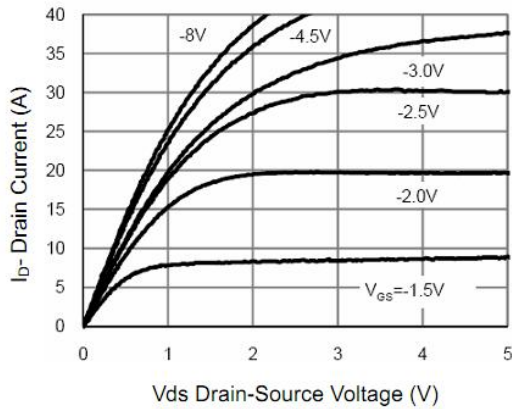


Figure 1: Output Characteristics

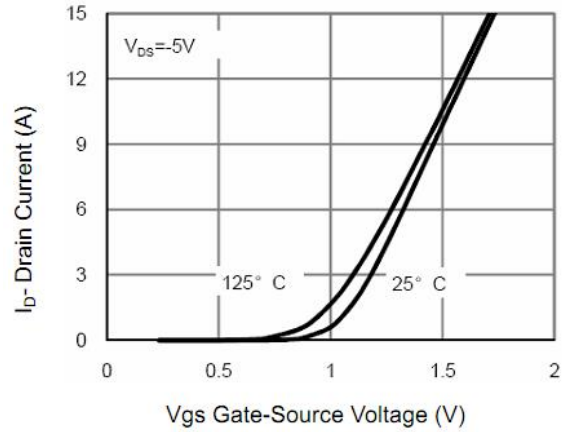


Figure 2: Transfer Characteristics

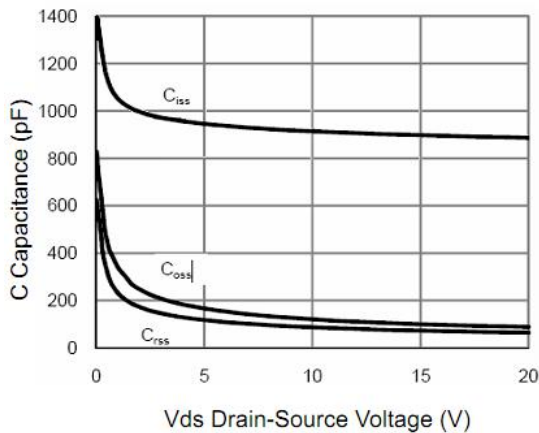


Figure 3: Capacitance

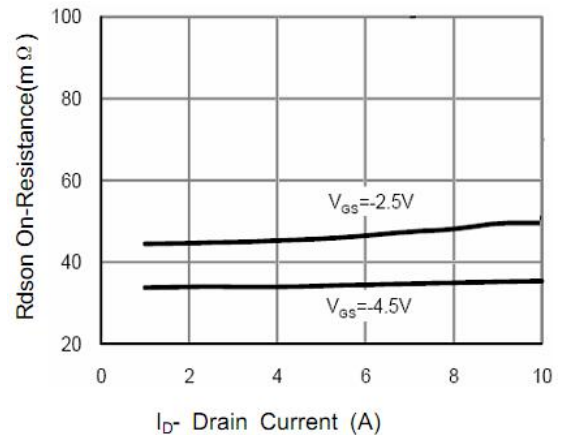


Figure 4: Rds(on)- Drain Current

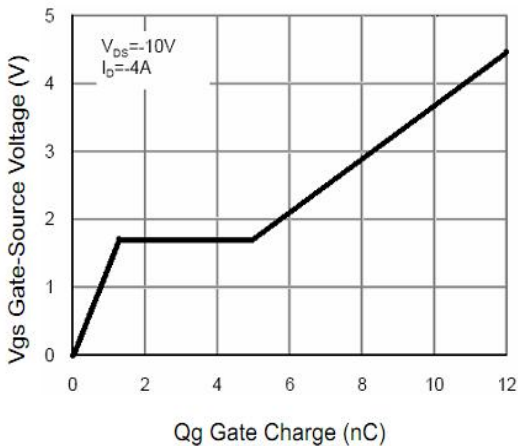


Figure 5: Gate-Charge Characteristics

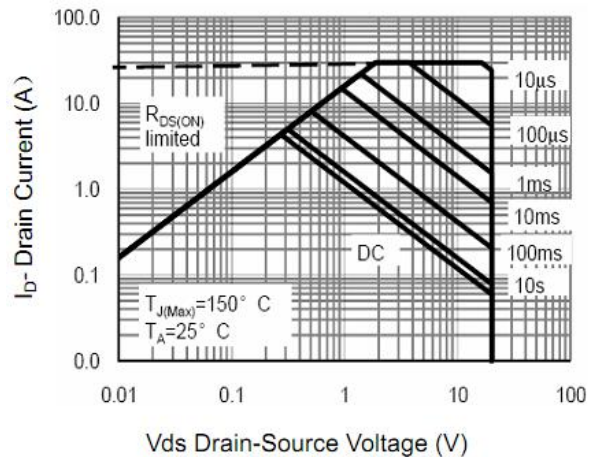


Figure 6: Safe Operating Area