Ordering number :EN5850

N-Channel Silicon MOS FET

FW214

Ultrahigh-Speed Switching Applications

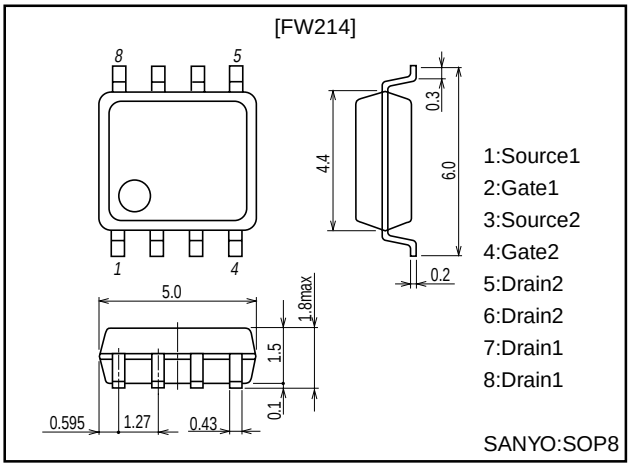
Features

· Low ON resistance.
· 2.5V drive.

Package Dimensions

unit:mm

2129



Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		20	V
Gate-to-Source Voltage	V_{GSS}		±10	V
Drain Current (DC)	I_D		5	A
Drain Current (pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	48	A
Allowable Power Dissipation	P_D	Mounted on ceramic board (1200mm^2×0.8mm) 1unit	1.7	W
Total Dissipation	P_T	Mounted on ceramic board (1200mm^2×0.8mm)	2.0	W
Channel Temperature	Tch		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
D-S Breakdown Voltage	$V_{(BR)DSS}$	I_D=1mA, V_{GS}=0	20			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=20V, V_{GS}=0			100	μA
Gate-to-Source Leak Current	I_{GSS}	V_{GS}=±8V, V_{DS}=0			±10	μA
Cutoff Current	$V_{GS(off)}$	V_{DS}=10V, I_D=1mA	0.4		1.3	V
Forward Transfer Admittance	| yfs |	V_{DS}=10V, I_D=5A	8	13		S
Static Drain-to-Source ON-State Resistance	$R_{DS(on)}1$	I_D=5A, V_{GS}=4V		38	50	mΩ
	$R_{DS(on)}2$	I_D=2A, V_{GS}=2.5V		50	70	mΩ
Input Capacitance	Ciss	V_{DS}=10V, f=1MHz		500		pF
Output Capacitance	Coss	V_{DS}=10V, f=1MHz		280		pF
Reverse Transfer Capacitance	Crss	V_{DS}=10V, f=1MHz		150		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		20		ns
Rise Time	t_r	See specified Test Circuit		250		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		70		ns
Fall Time	t_f	See specified Test Circuit		130		ns
Total Gate Charge	Qg	V_{DS}=10V, V_{GS}=10V, I_D=5A		22		nC
Gate-to-Source Charge	Qgs	V_{DS}=10V, V_{GS}=10V, I_D=5A		3		nC
Gate-to-Drain ("Miller") Charge	Qgd	V_{DS}=10V, V_{GS}=10V, I_D=5A		3		nC
Diode Forward Voltage	V_{SD}	I_S=5A, V_{GS}=0		1.0	1.2	V

Switching Time Test Circuit