



FW274 — N-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- 4V drive.
- Composite type, facilitating high-density mounting.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		30	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		6	A
Drain Current (PW≤10s)	I _D	Duty cycle≤1%	6.5	A
Drain Current (PW≤10μs)	I _{DP}	Duty cycle≤1%	24	A
Allowable Power Dissipation	P _D	When mounted on ceramic substrate (2000mm ² ×0.8mm) 1unit, PW≤10s	1.8	W
Total Dissipation	P _T	When mounted on ceramic substrate (2000mm ² ×0.8mm), PW≤10s	2.2	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V _{(BR)DSS}	I _D =1mA, V _{GS} =0V	30			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V, V _{GS} =0V			1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±16V, V _{DS} =0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =10V, I _D =1mA	1.2		2.6	V
Forward Transfer Admittance	y _{fs}	V _{DS} =10V, I _D =6A	1.8	3		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =6A, V _{GS} =10V		28	37	mΩ
	R _{DS(on)2}	I _D =3A, V _{GS} =4.5V		43	61	mΩ
	R _{DS(on)3}	I _D =3A, V _{GS} =4V		52	73	mΩ

Marking : W274

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FW274

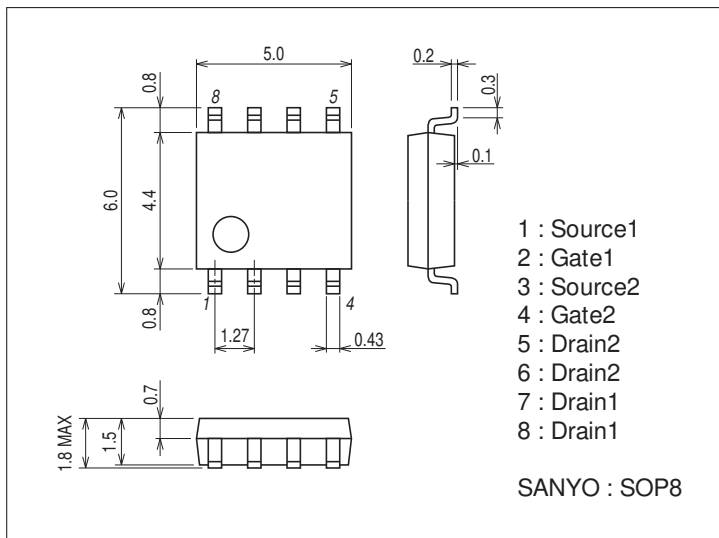
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	$V_{DS}=10V, f=1MHz$		490		pF
Output Capacitance	Coss	$V_{DS}=10V, f=1MHz$		85		pF
Reverse Transfer Capacitance	Crss	$V_{DS}=10V, f=1MHz$		45		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		8		ns
Rise Time	t_r	See specified Test Circuit.		45		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		31		ns
Fall Time	t_f	See specified Test Circuit.		28		ns
Total Gate Charge	Qg	$V_{DS}=15V, V_{GS}=10V, I_D=6A$		9.1		nC
Gate-to-Source Charge	Qgs	$V_{DS}=15V, V_{GS}=10V, I_D=6A$		1.7		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=15V, V_{GS}=10V, I_D=6A$		1.7		nC
Diode Forward Voltage	VSD	$I_S=6A, V_{GS}=0V$		0.84	1.2	V

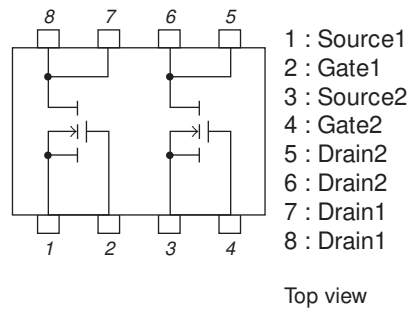
Package Dimensions

unit : mm (typ)

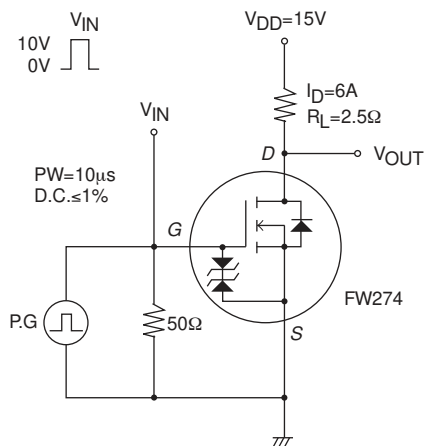
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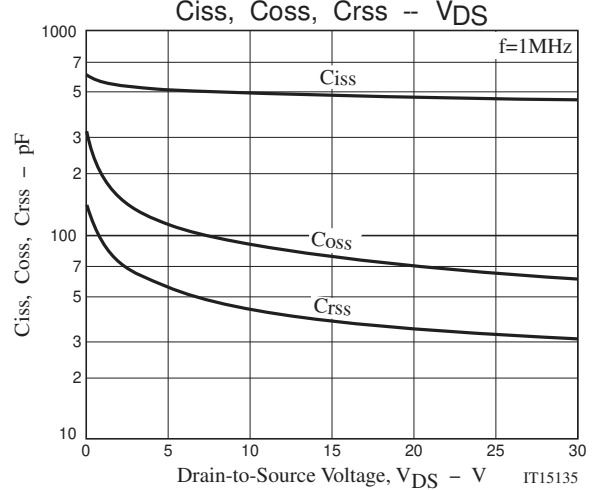
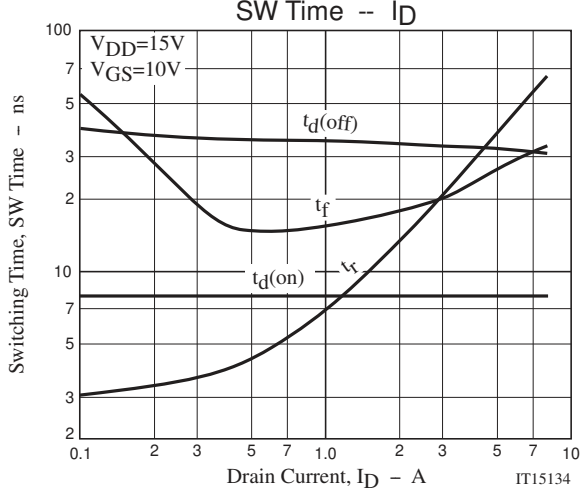
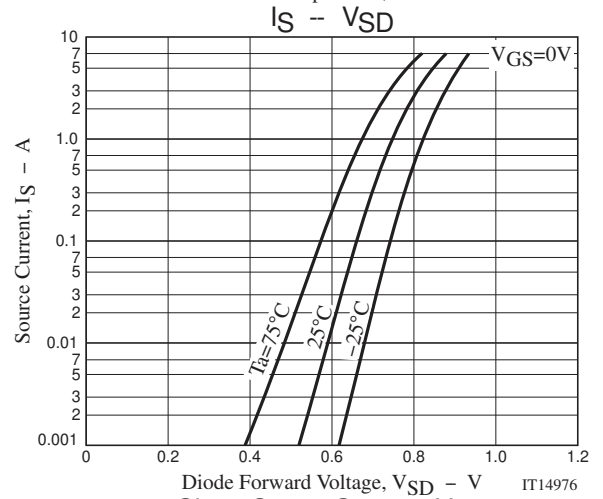
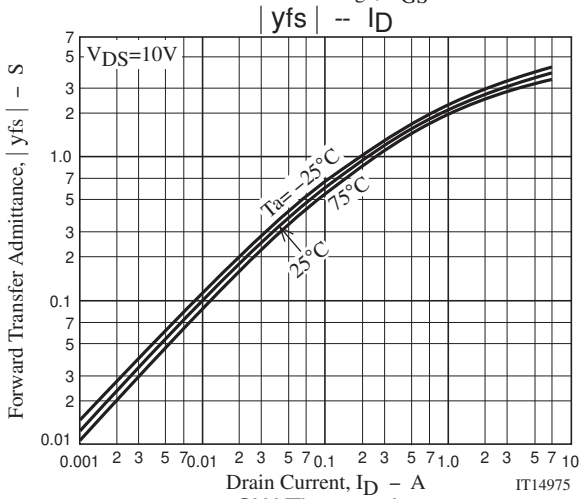
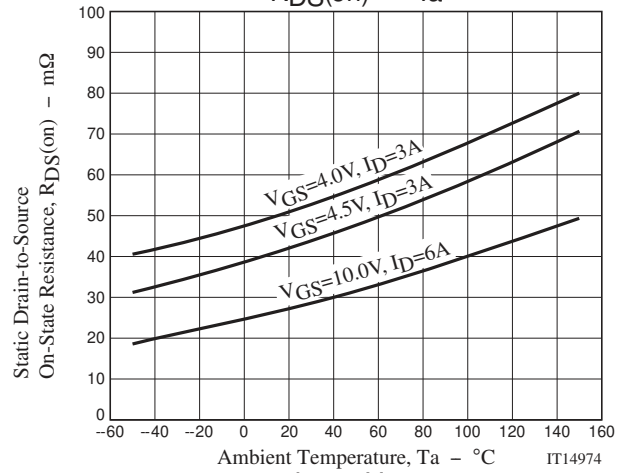
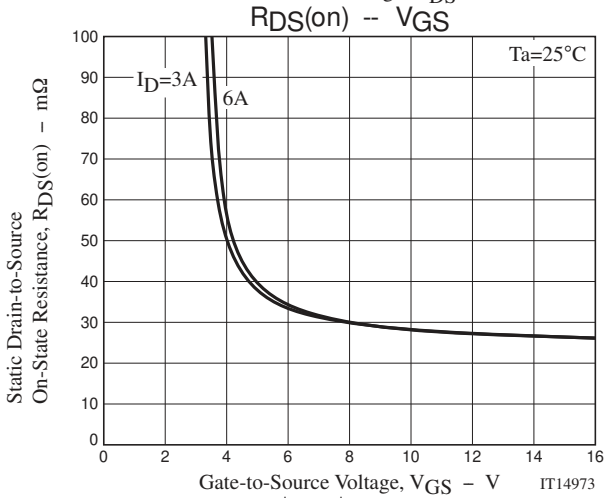
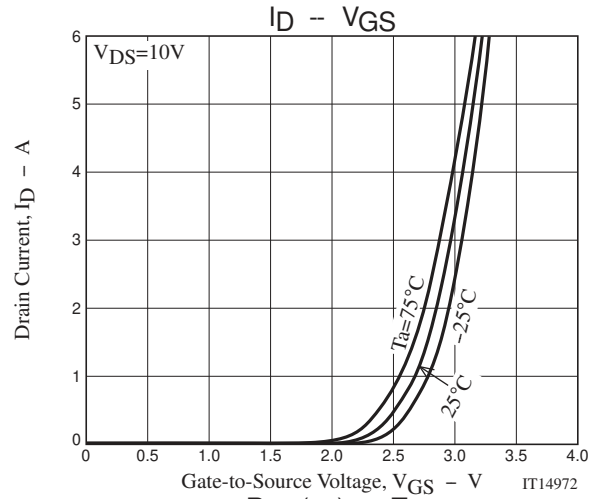
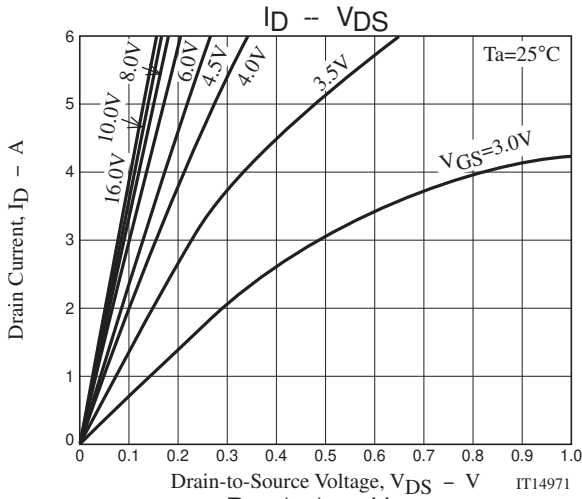


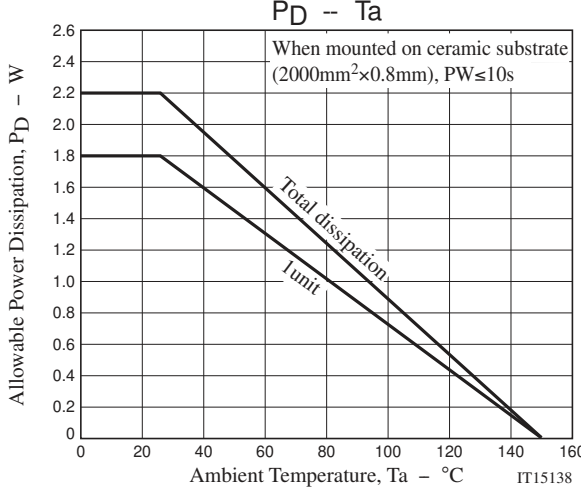
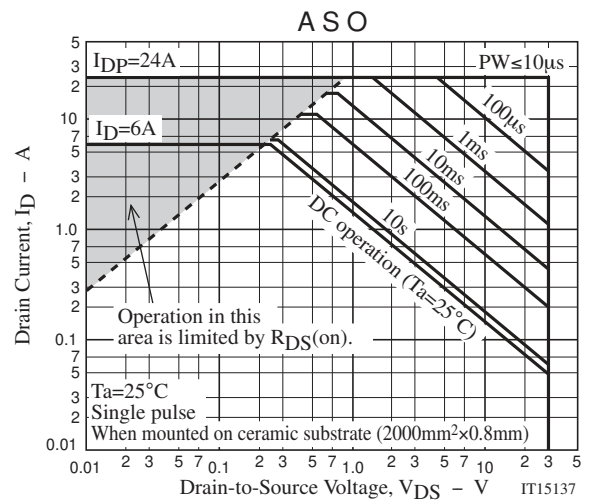
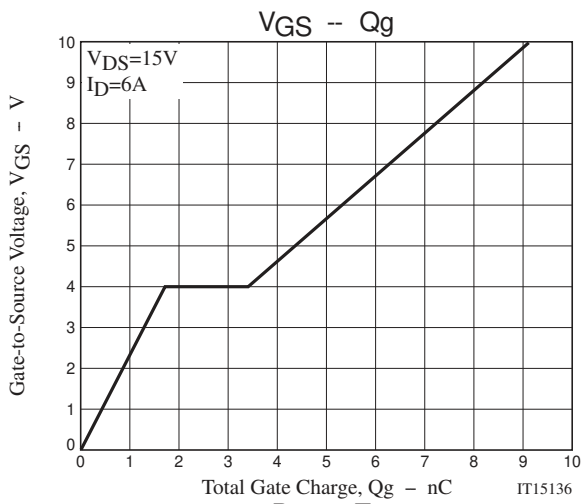
Electrical Connection



Switching Time Test Circuit







Note on usage : Since the FW274 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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