



P-Channel Silicon MOSFET

# FTD1029 — General-Purpose Switching Device Applications

## Features

- Low ON-resistance.
- 4V drive.
- Mounting height 1.1mm.
- Composite type, facilitating high-density mounting.

## Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		-30	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±20	V
Drain Current (DC)	I <sub>D</sub>		-3	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	-15	A
Allowable Power Dissipation	P <sub>D</sub>	Mounted on a ceramic board (1000mm <sup>2</sup> X0.8mm) 1unit	0.8	W
Total Power Dissipation	P <sub>T</sub>	Mounted on a ceramic board (1000mm <sup>2</sup> X0.8mm)	1.0	W
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	I <sub>D</sub> =-1mA, V <sub>GS</sub> =0V	-30			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =-30V, V <sub>GS</sub> =0V			-1	μA
Gate-to-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±16V, V <sub>DS</sub> =0V			±10	μA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =-10V, I <sub>D</sub> =-1mA	-1.2		-2.6	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =-10V, I <sub>D</sub> =-2A	2.4	4		S
Static Drain-to-Source On-State Resistance	R <sub>DS(on)1</sub>	I <sub>D</sub> =-2A, V <sub>GS</sub> =-10V		56	73	mΩ
	R <sub>DS(on)2</sub>	I <sub>D</sub> =-1A, V <sub>GS</sub> =-4.5V		100	140	mΩ
	R <sub>DS(on)3</sub>	I <sub>D</sub> =-1A, V <sub>GS</sub> =-4V		117	164	mΩ
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =-10V, f=1MHz		570		pF
Output Capacitance	C <sub>oss</sub>	V <sub>DS</sub> =-10V, f=1MHz		100		pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>DS</sub> =-10V, f=1MHz		85		pF

Marking : D1029

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# FTD1029

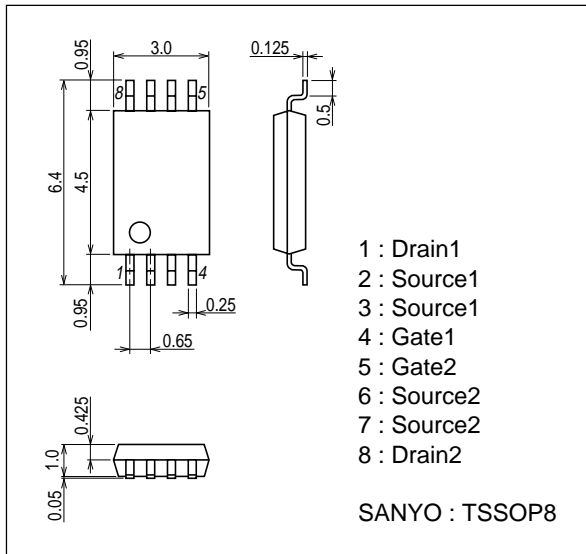
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		11		ns
Rise Time	$t_r$	See specified Test Circuit.		13		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		49		ns
Fall Time	$t_f$	See specified Test Circuit.		36		ns
Total Gate Charge	$Q_g$	$V_{DS}=-10V, V_{GS}=-10V, I_D=-3A$		11.7		nC
Gate-to-Source Charge	$Q_{gs}$	$V_{DS}=-10V, V_{GS}=-10V, I_D=-3A$		2.04		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$	$V_{DS}=-10V, V_{GS}=-10V, I_D=-3A$		2.64		nC
Diode Forward Voltage	$V_{SD}$	$I_S=-3A, V_{GS}=0V$		-0.84	-1.2	V

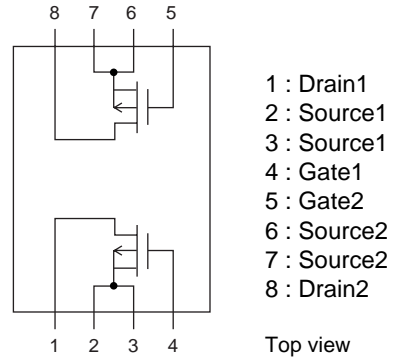
## Package Dimensions

unit : mm (typ)

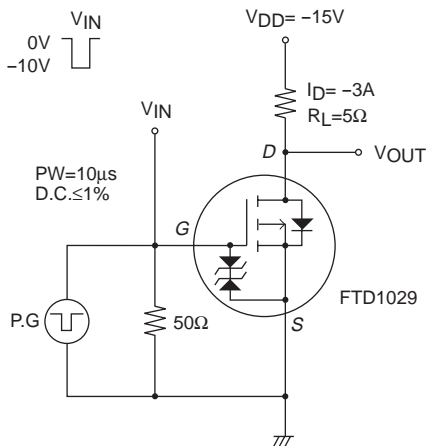
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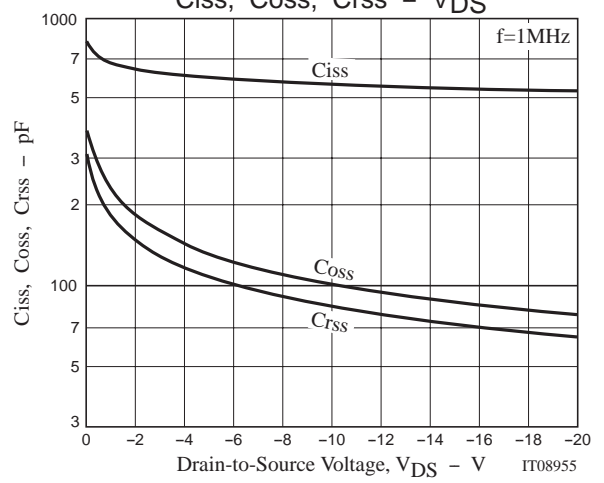
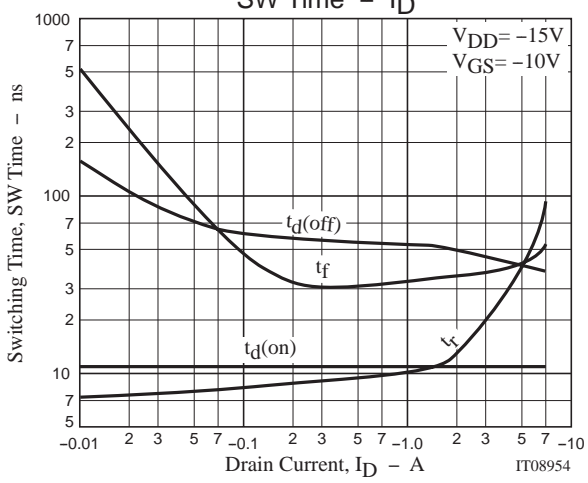
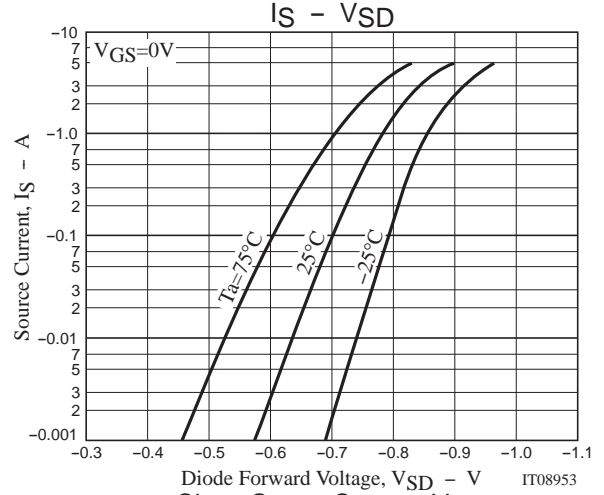
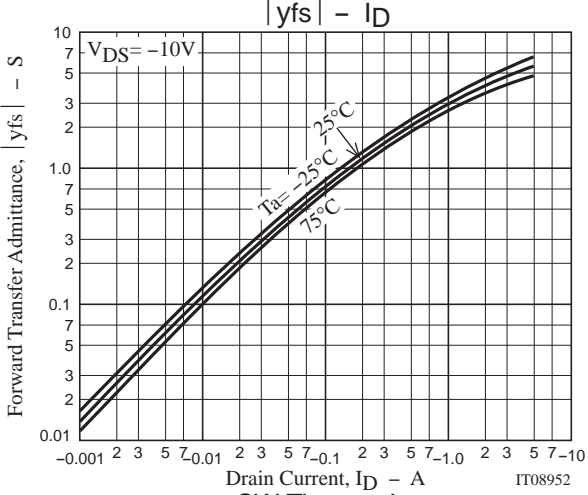
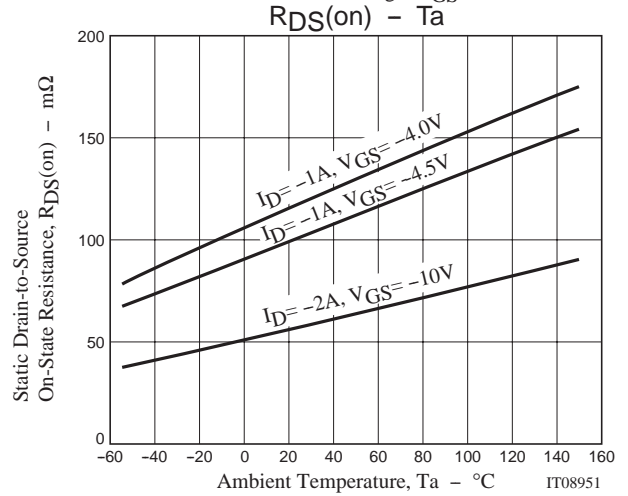
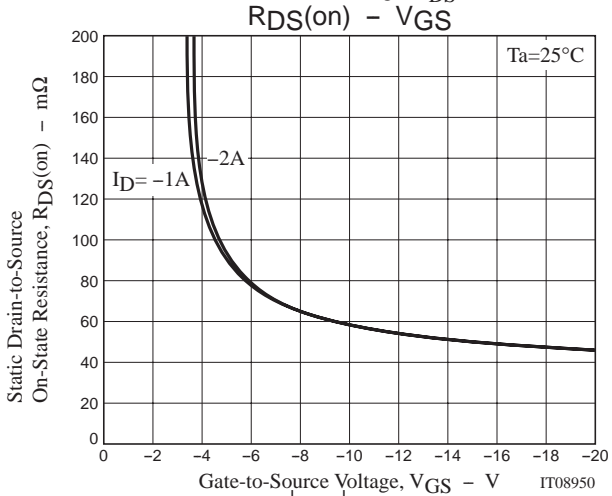
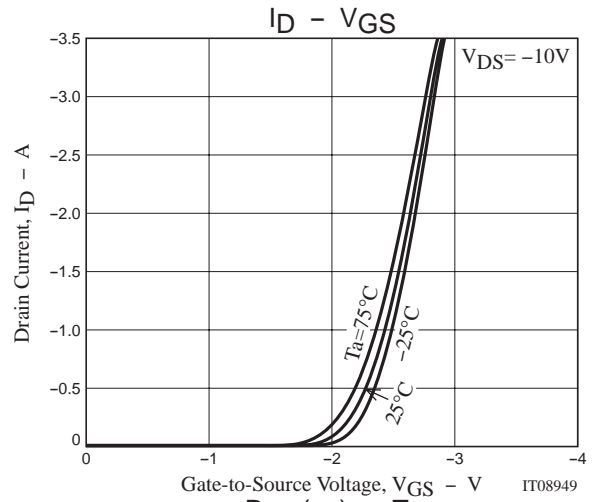
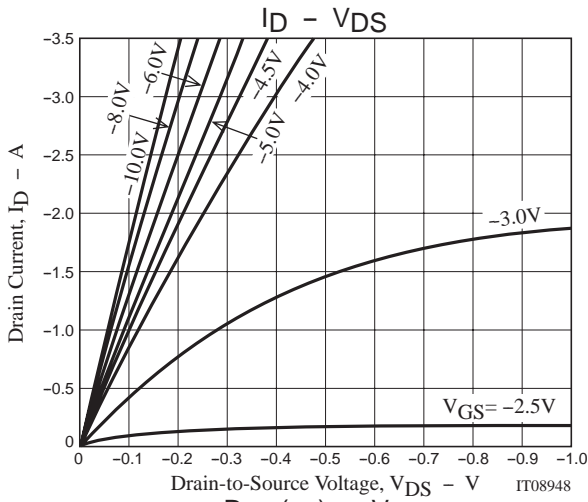


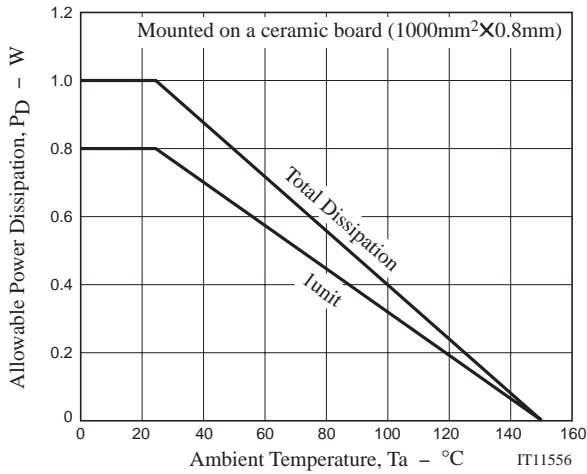
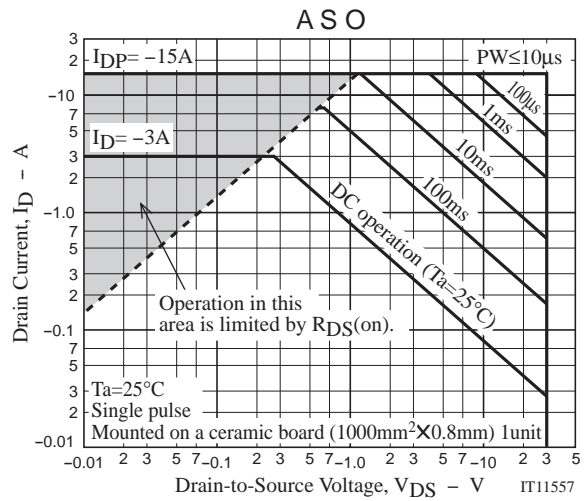
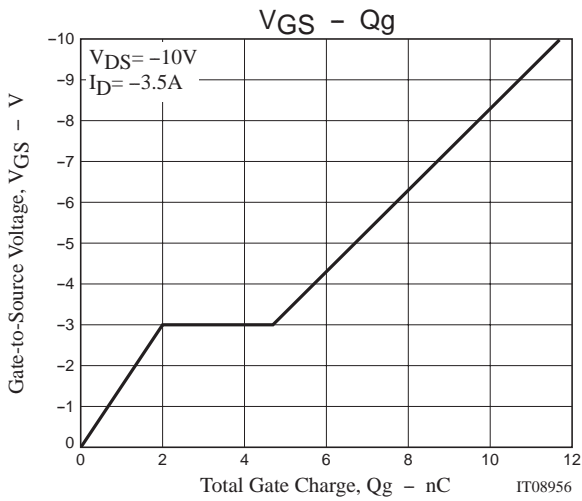
## Electrical Connection



## Switching Time Test Circuit







Note on usage : Since the FTD1029 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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