



# FTD2014

## Load Switching Applications

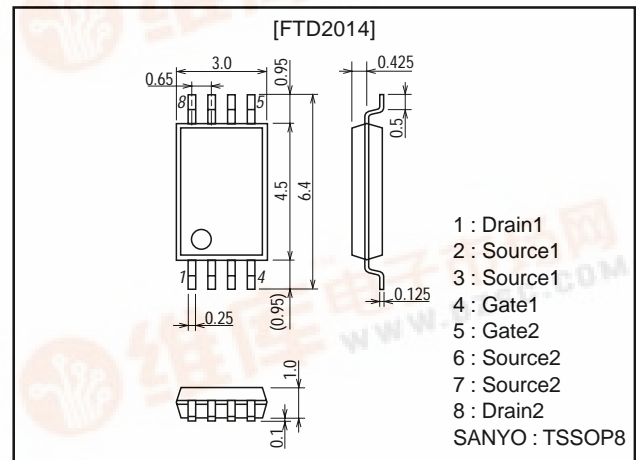
### Features

- Low ON resistance.
- 2.5V drive.
- Mounting height 1.1mm.
- Composite type, facilitating high-density mounting.

### Package Dimensions

unit:mm

2155A



### 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	$V_{GSS}$		$\pm 10$	V
Drain Current (DC)	$I_D$		4	A
Drain Current (pulse)	$I_{DP}$	$PW \leq 10\mu s$ , duty cycle $\leq 1\%$	20	A
Allowable Power Dissipation	$P_D$	Mounted on a ceramic board (1000mm <sup>2</sup> ×0.8mm) 1 unit	0.8	W
Total Dissipation	$P_T$	Mounted on a ceramic board (1000mm <sup>2</sup> ×0.8mm)	1.3	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	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0$	20			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=20V, V_{GS}=0$			1	$\mu A$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 8V, V_{DS}=0$			$\pm 10$	$\mu A$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	0.4		1.3	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=4A$	7	10		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=4A, V_{GS}=4V$		32	42	m $\Omega$
	$R_{DS(on)2}$	$I_D=2A, V_{GS}=2.5V$		42	59	m $\Omega$
Input Capacitance	$C_{iss}$	$V_{DS}=10V, f=1MHz$		700		pF
Output Capacitance	$C_{oss}$	$V_{DS}=10V, f=1MHz$		200		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=10V, f=1MHz$		150		pF

Marking : D2014

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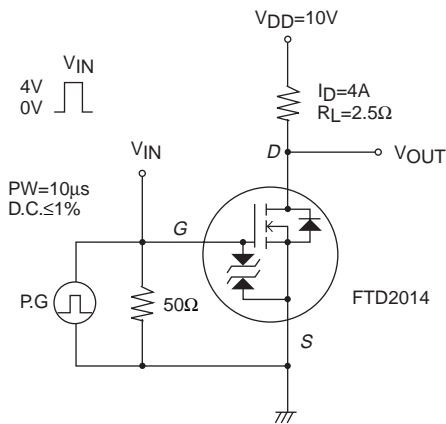


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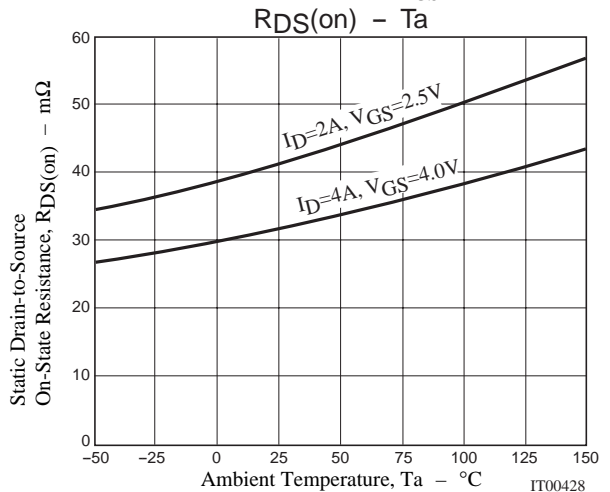
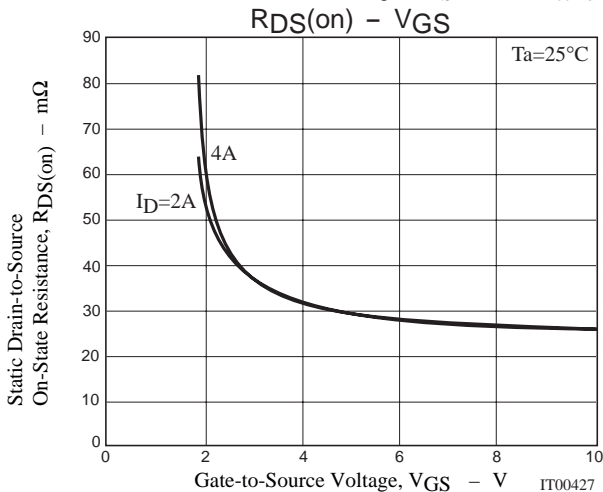
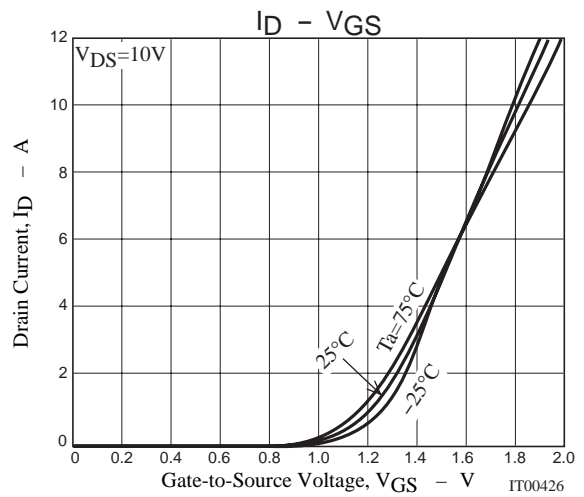
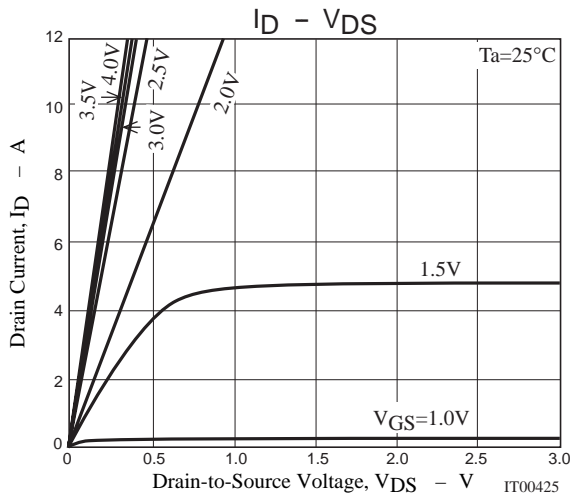
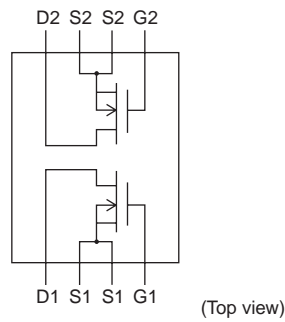
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See Specified Test Circuit		14		ns
Rise Time	$t_r$	See Specified Test Circuit		130		ns
Turn-OFF Delay Time	$t_{d(off)}$	See Specified Test Circuit		83		ns
Fall Time	$t_f$	See Specified Test Circuit		110		ns
Total Gate Charge	Qg	$V_{DS}=10V, V_{GS}=10V, I_D=4A$		24		nC
Gate-to-Source Charge	Qgs			1.4		nC
Gate-to-Drain "Miller" Charge	Qgd			3.2		nC
Diode Forward Voltage	$V_{SD}$	$I_S=4A, V_{GS}=0$		0.85	1.2	V

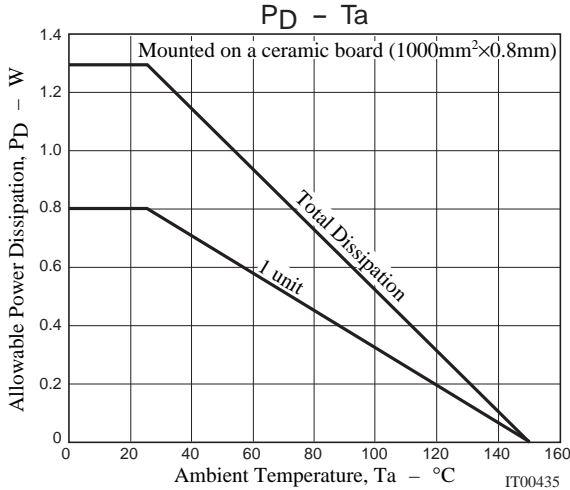
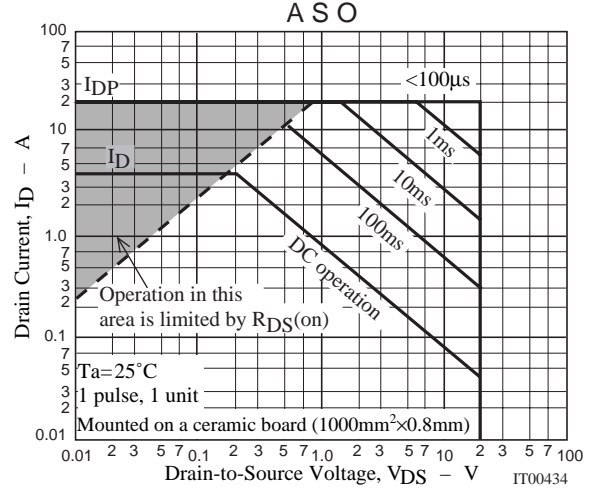
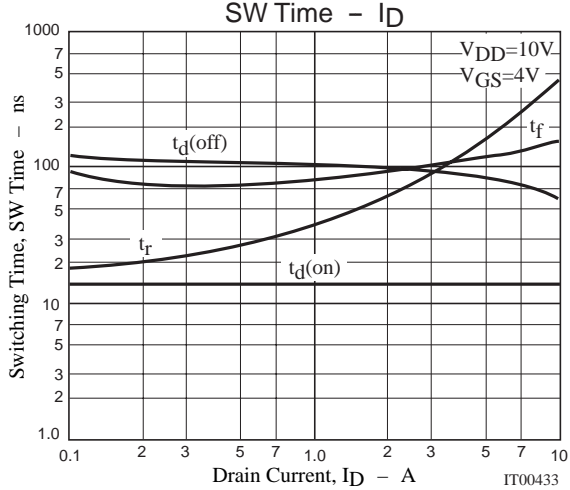
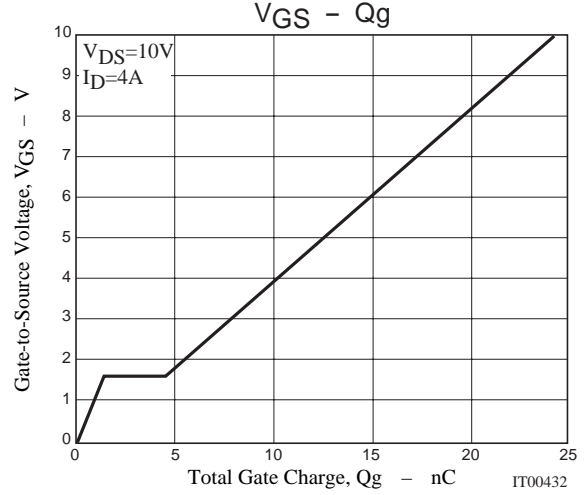
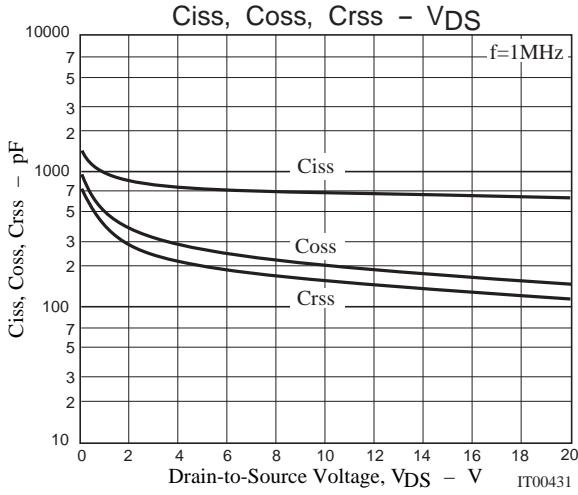
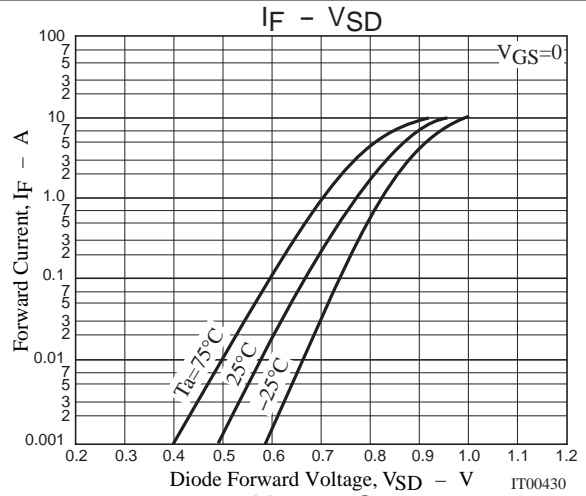
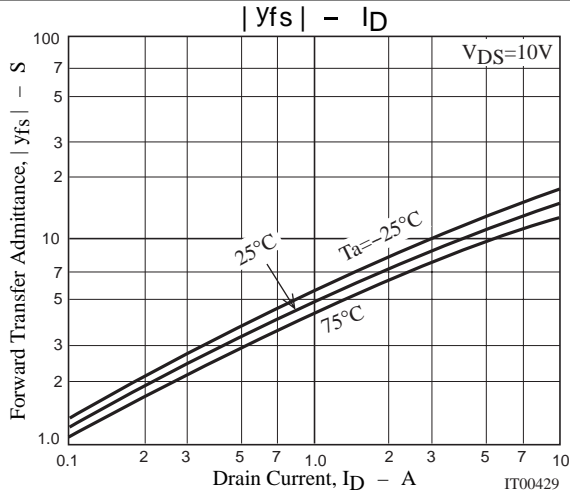
## Switching Time Test Circuit



## Electrical Connection



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