

FTD2011

Load Switching Applications

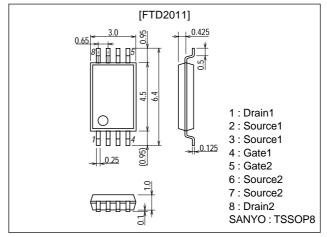
Features

- · 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 $Ta = 25^{\circ}C$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	VDSS		20	V
Gate-to-Source Voltage	VGSS		±10	V
Drain Current (DC)	ID		5	Α
Drain Current (pulse)	I _{DP}	PW≤10µs, duty cycle≤1%	20	Α
Allowable Power Dissipation	PD	Mounted on a ceramic board (1000mm ² ×0.8mm) 1unit	0.8	W
Total Dissipation	PT	Mounted on a ceramic board (1000mm ² ×0.8mm)	1.3	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	Offic
Drain-to-Source Breakdown Voltage	V(BR)DSS	I _D =1mA, V _{GS} =0	20			V
Zero-Gate Voltage Drain Current	IDSS	V _{DS} =20V, V _{GS} =0			1	μΑ
Gate-to-Source Leakage Current	IGSS	$V_{GS}=\pm 8V$, $V_{DS}=0$			±10	μΑ
Cutoff Voltage	VGS(off)	V _{DS} =10V, I _D =1mA	0.5		1.3	V
Forward Transfer Admittance	yfs	V _{DS} =10V, I _D =5A	8	12		S
Static Drain-to-Source On-State Resistance	R _{DS(on)} 1	I _D =4A, V _{GS} =4V		22	28	mΩ
	R _{DS(on)} 2	I _D =2A, V _{GS} =2.5V		30	40	mΩ
Input Capacitance	Ciss	V _{DS} =10V, f=1MHz		900		pF
Output Capacitance	Coss	V _{DS} =10V, f=1MHz		260		pF
Reverse Transfer Capacitance	Crss	V _{DS} =10V, f=1MHz		200		pF

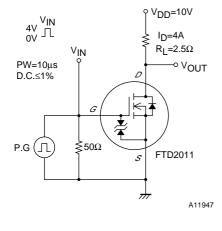
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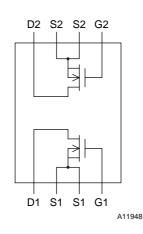
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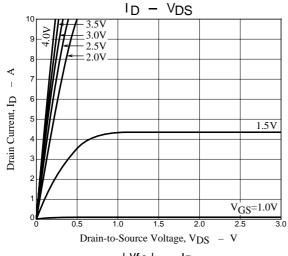
Parameter	Symbol	Conditions	Ratings			Unit
	Symbol		min	typ	max	Offic
Turn-ON Delay Time	t _{d(on)}	See Specified Test Circuit		15		ns
Rise Time	t _r	See Specified Test Circuit		150		ns
Turn-OFF Delay Time	td(off)	See Specified Test Circuit		100		ns
Fall Time	t _f	See Specified Test Circuit		150		ns
Total Gate Charge	Qg	V _{DS} =10V, V _{GS} =10V, I _D =4A		32		nC
Gate-to-Source Charge	Qgs			1.5		nC
Gate-to-Drain "Miller" Charge	Qgd			6		nC
Diode Forward Voltage	V _{SD}	I _S =5A, V _{GS} =0		0.82	1.2	V

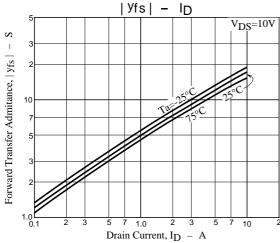
Switching Time Test Circuit

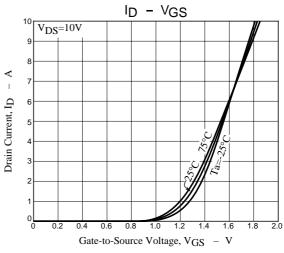


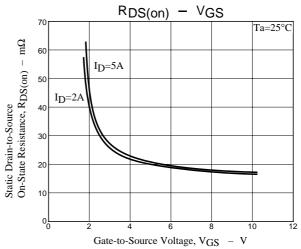
Electrical Connection



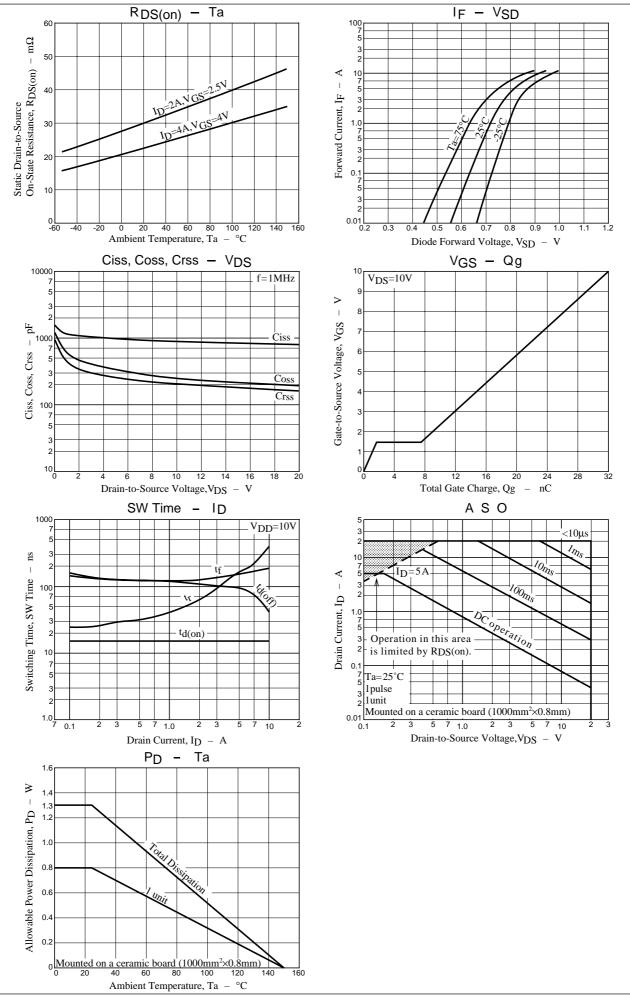








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