

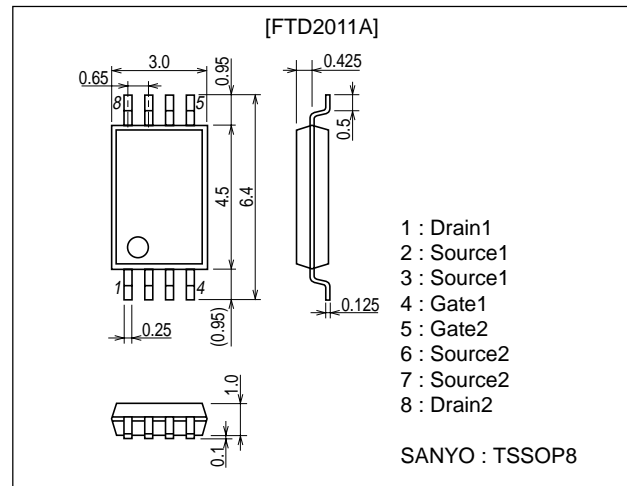
**FTD2011A****Load Switching Applications****Features**

- 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 $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		20	V
Gate-to-Source Voltage	V_{GS}		± 12	V
Drain Current (DC)	I_D		4	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	20	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board (1300mm ² ×0.8mm) 1unit	0.8	W
Total Dissipation	P_T	Mounted on a ceramic board (1300mm ² ×0.8mm)	1.3	W
Channel Temperature	T_{ch}		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1\text{mA}$, $V_{GS}=0$	20			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=20\text{V}$, $V_{GS}=0$			1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 8\text{V}$, $V_{DS}=0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10\text{V}$, $I_D=1\text{mA}$	0.5		1.3	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10\text{V}$, $I_D=4\text{A}$	5	7		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=4\text{A}$, $V_{GS}=4\text{V}$		22	39	$\text{m}\Omega$
	$R_{DS(on)2}$	$I_D=2\text{A}$, $V_{GS}=2.5\text{V}$		30	56	$\text{m}\Omega$

Marking : D2011A

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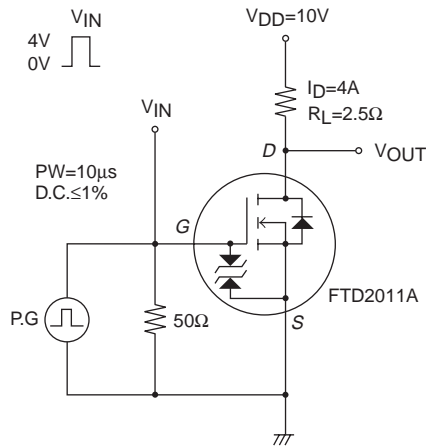
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FTD2011A

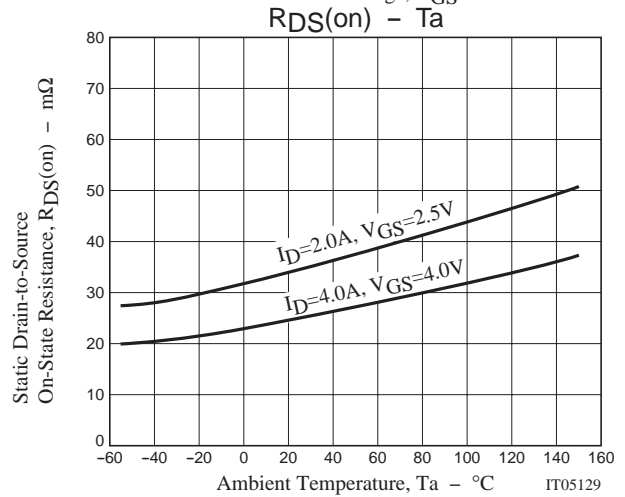
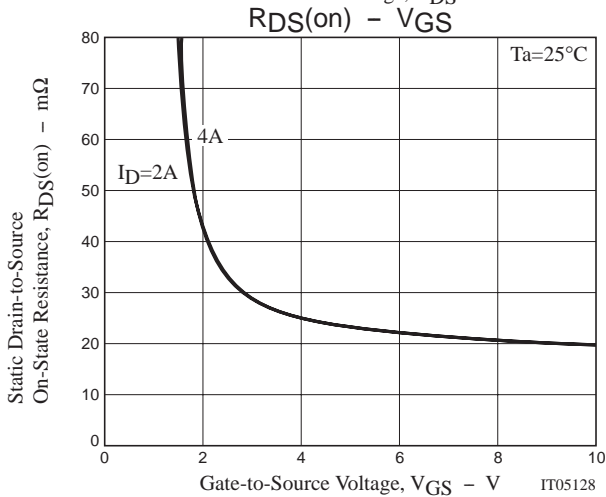
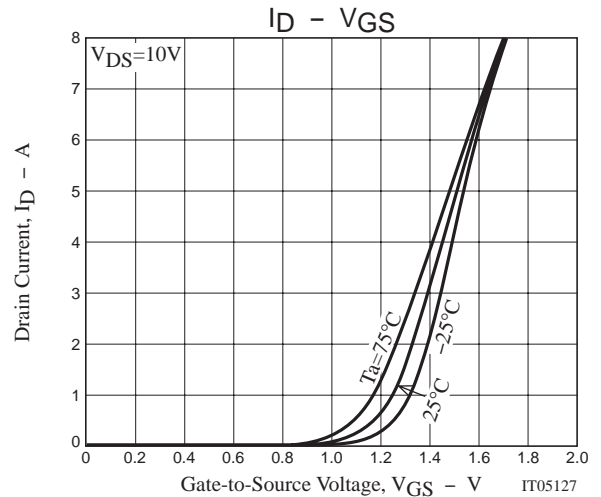
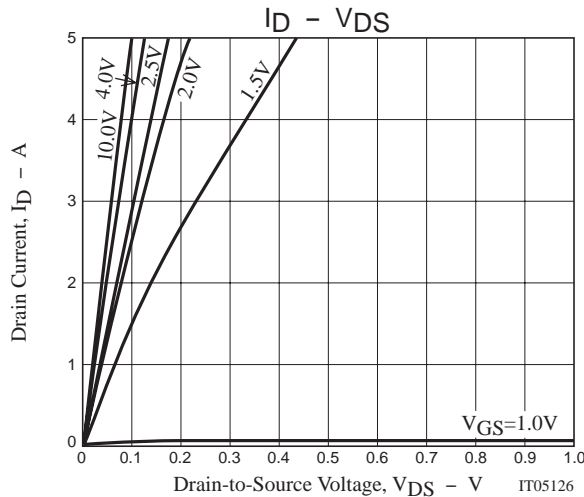
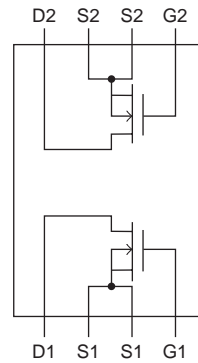
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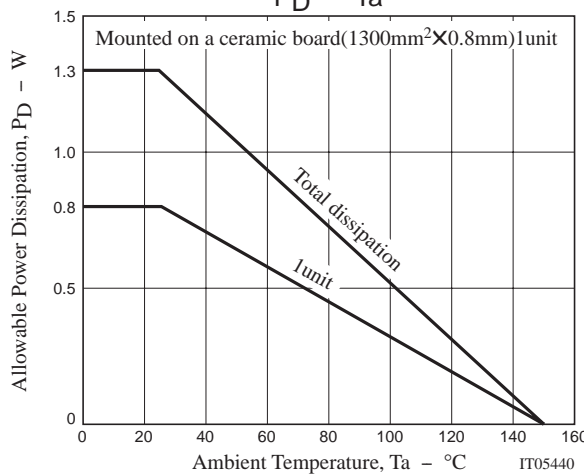
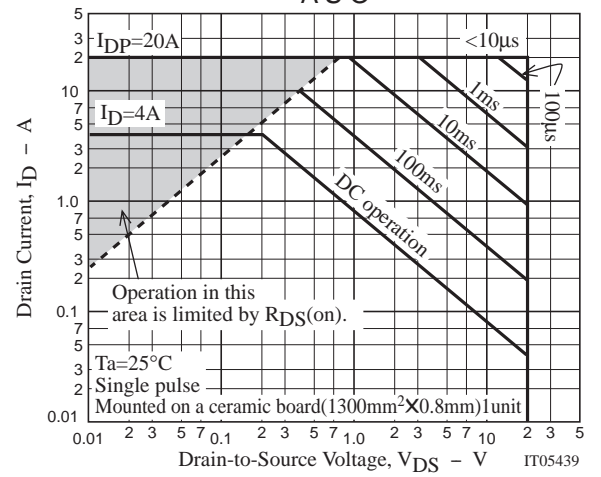
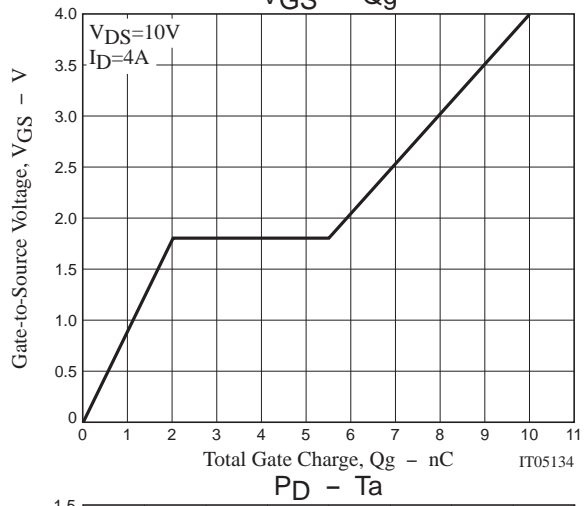
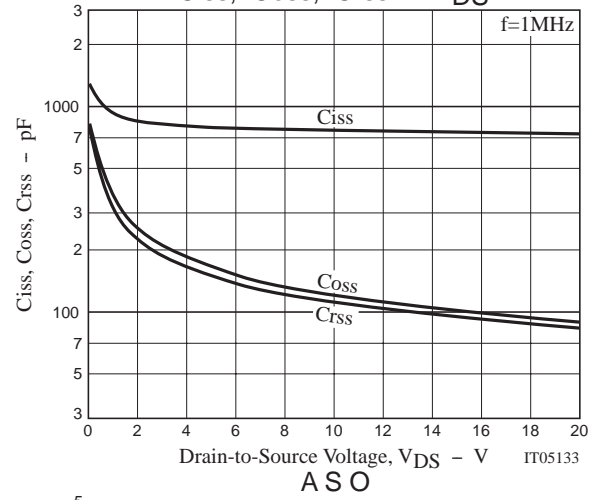
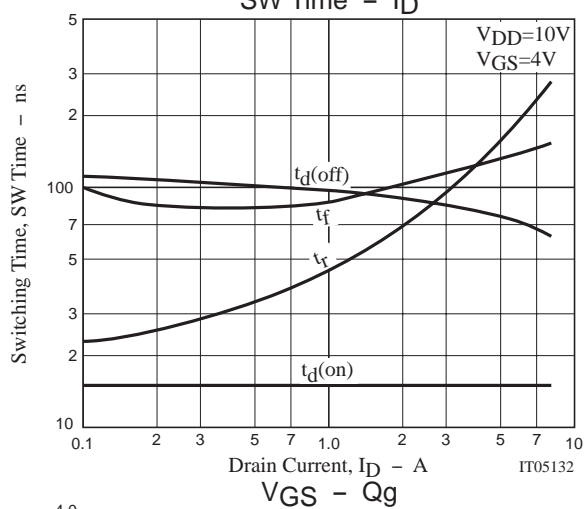
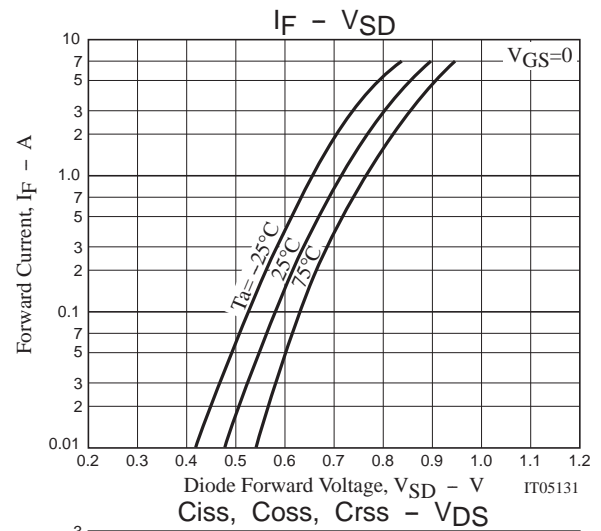
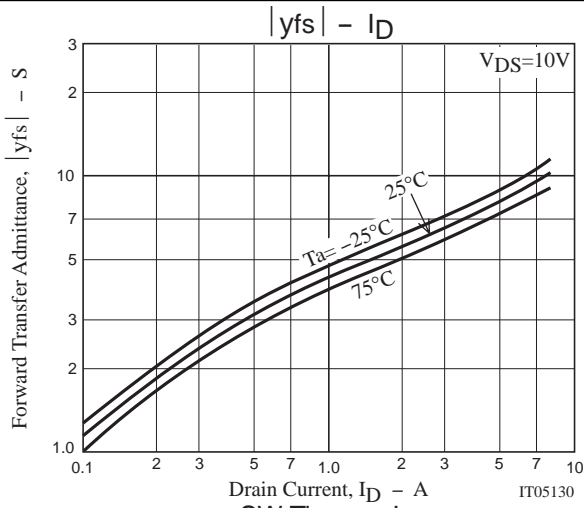
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	C_{iss}	$V_{DS}=10V, f=1MHz$		740		pF
Output Capacitance	C_{oss}	$V_{DS}=10V, f=1MHz$		150		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=10V, f=1MHz$		38		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		15		ns
Rise Time	t_r	See specified Test Circuit.		120		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		88		ns
Fall Time	t_f	See specified Test Circuit.		120		ns
Total Gate Charge	Q_g	$V_{DS}=10V, V_{GS}=4V, I_D=4A$		10		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS}=10V, V_{GS}=4V, I_D=4A$		2		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS}=10V, V_{GS}=4V, I_D=4A$		3.5		nC
Diode Forward Voltage	V_{SD}	$I_S=4A, V_{GS}=0$		0.82	1.2	V

Switching Time Test Circuit



Electrical Connection





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