



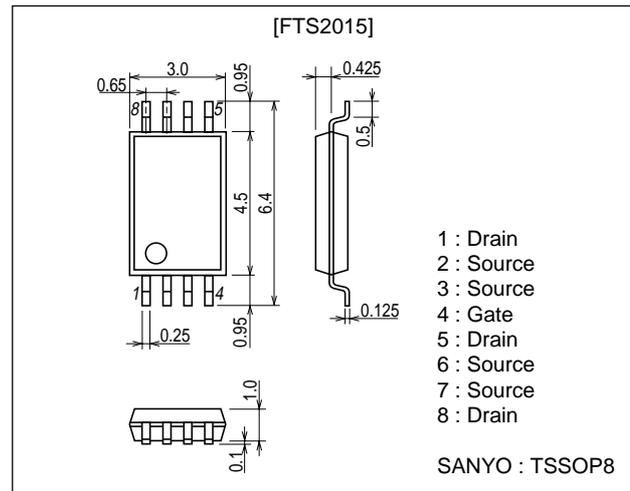
Ultrahigh-Speed Switching Applications

Features

- Low ON-resistance.
- 2.5V drive.
- Mount height 1.1mm.

Package Dimensions

unit : mm
2147A



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}		±10	V
Drain Current (DC)	I _D		7	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	28	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (1000mm ² ×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	30			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V, V _{GS} =0			1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±8V, V _{DS} =0			±10	μA
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 =7A	15	22		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =7A, V _{GS} =4V		16	21	mΩ
	R _{DS(on)2}	I _D =2A, V _{GS} =2.5V		22	31	mΩ

Marking : S2015

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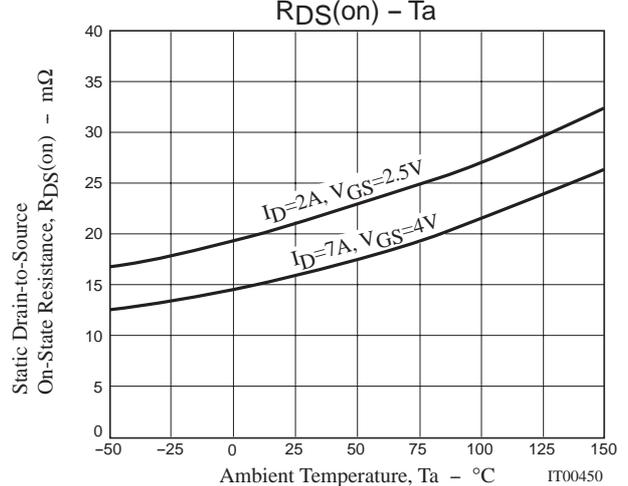
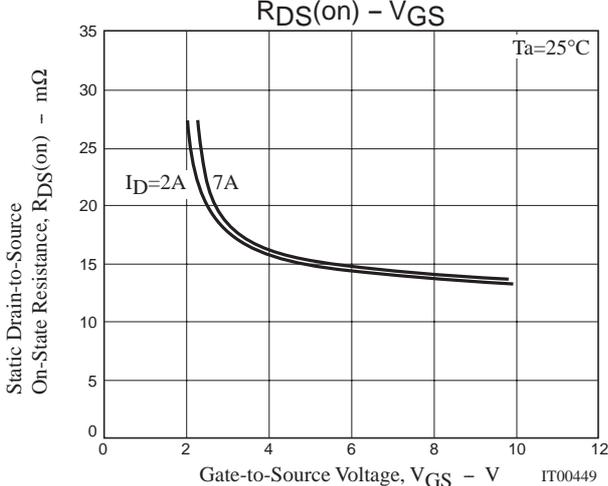
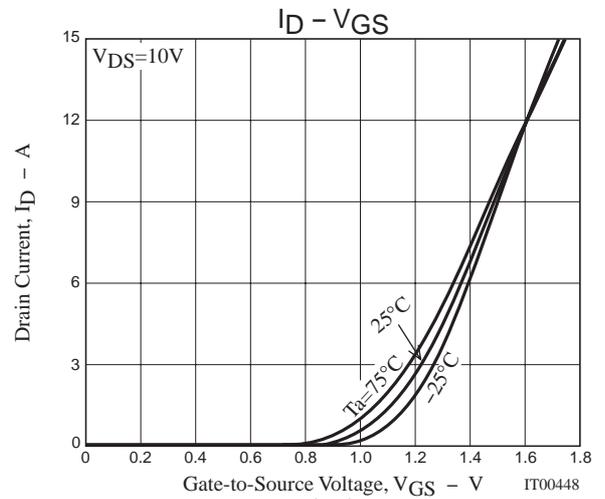
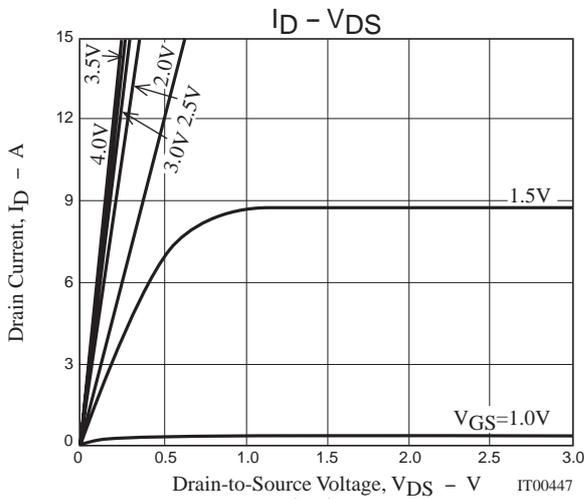
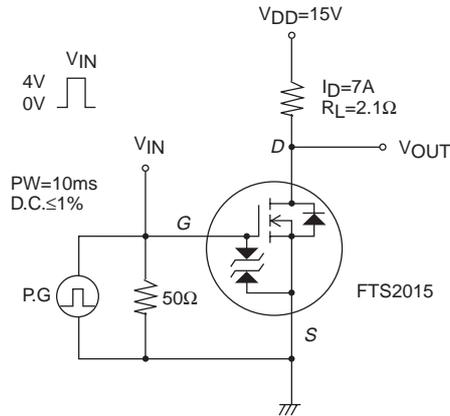
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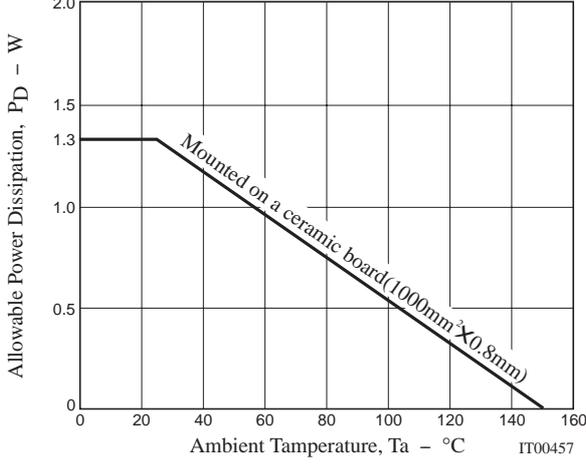
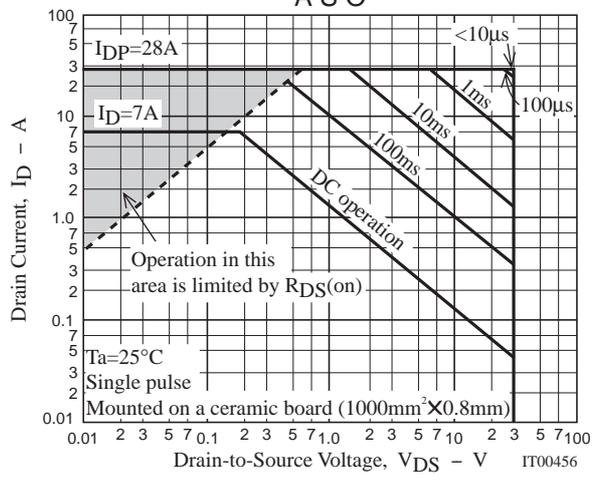
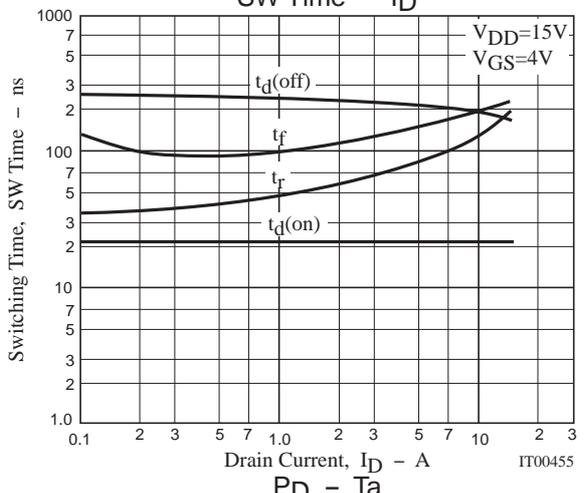
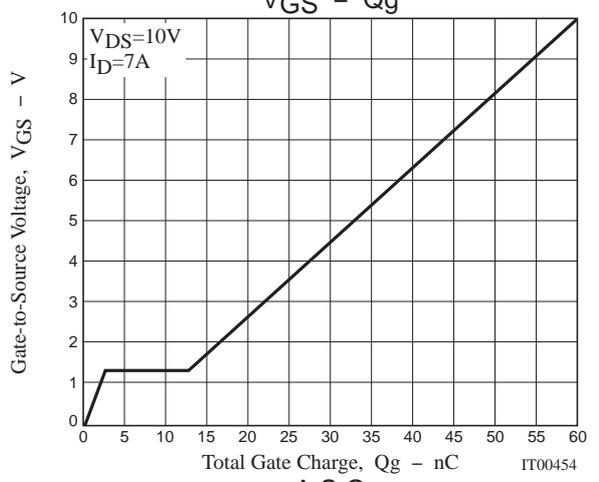
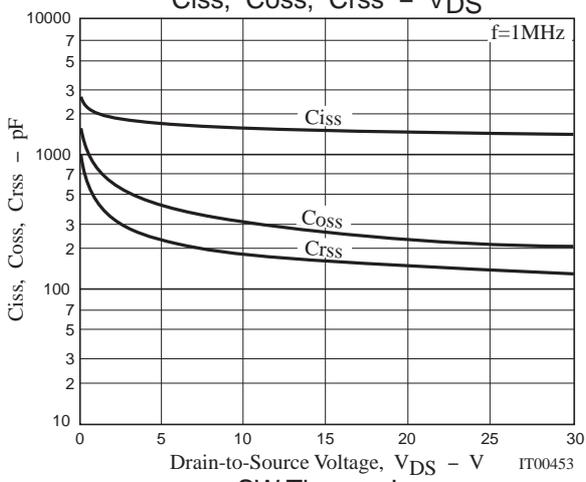
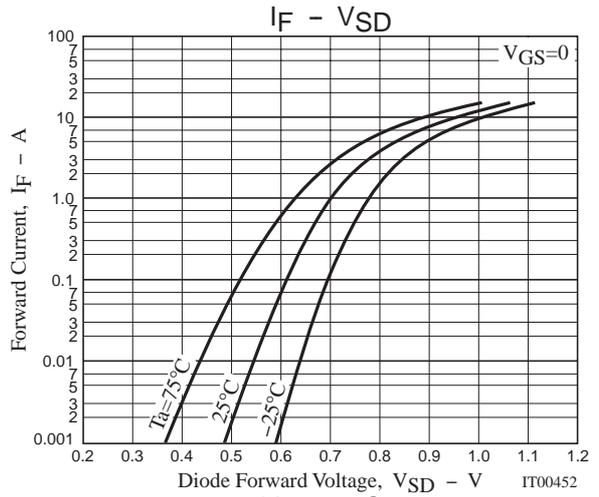
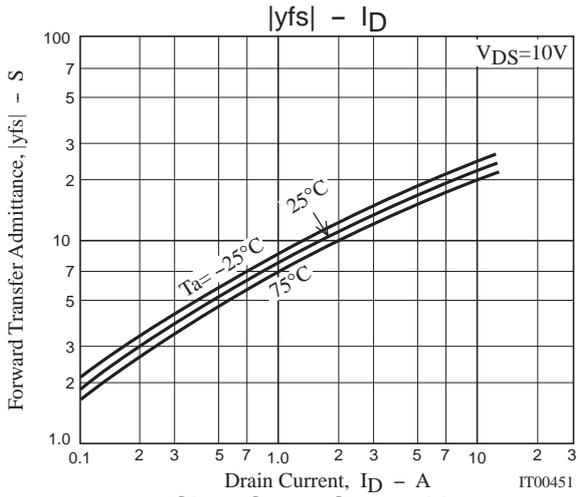
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V _{DS} =10V, f=1MHz		1550		pF
Output Capacitance	Coss	V _{DS} =10V, f=1MHz		310		pF
Reverse Transfer Capacitance	Crss	V _{DS} =10V, f=1MHz		190		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit		22		ns
Rise Time	t _r	See specified Test Circuit		100		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit		205		ns
Fall Time	t _f	See specified Test Circuit		165		ns
Total Gate Charge	Q _g	V _{DS} =10V, V _{GS} =10V, I _D =7A		60		nC
Gate Source Charge	Q _{gs}	V _{DS} =10V, V _{GS} =10V, I _D =7A		2.5		nC
Gate Drain Charge	Q _{gd}	V _{DS} =10V, V _{GS} =10V, I _D =7A		10		nC
Diode Forward Voltage	V _{SD}	I _S =7A, V _{GS} =0	0.88		1.2	V

Switching Time Test Circuit





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