



Load Switching Applications

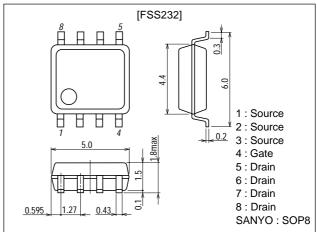
Features

- · Low ON resistance.
- · 4V drive.

Package Dimensions

unit:mm

2116



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}		±20	V
Drain Current (DC)	I _D		9	Α
Drain Current (pulse)	I _{DP}	PW≤10µs, duty cycle≤1%	52	Α
Allowable Power Dissipation	PD	Mounted on a ceramic board (1000mm ² ×0.8mm)	1.8	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	Oill
Drain-to-Source Breakdown Voltage	V _{(BR)DSS}	I _D =1mA, V _{GS} =0	30			V
Zero-Gate Voltage Drain Current	IDSS	V _{DS} =30V, V _{GS} =0			1	μA
Gate-to-Source Leakage Current	IGSS	V _{GS} =±16V, V _{DS} =0			±10	μA
Cutoff Voltage	V _{GS(off)}	V_{DS} =10V, I_D =1mA	1.0		2.4	V
Forward Transfer Admittance	yfs	V _{DS} =10V, I _D =9A	10.5	15		S
Static Drain-to-Source On-State Resistance	R _{DS(on)} 1	I _D =9A, V _{GS} =10V		15	20	mΩ
	R _{DS(on)} 2	I _D =4A, V _{GS} =4V		23	33	$m\Omega$
Input Capacitance	Ciss	V _{DS} =10V, f=1MHz		1550		pF
Output Capacitance	Coss	V _{DS} =10V, f=1MHz		350		pF
Reverse Transfer Capacitance	Crss	V _{DS} =10V, f=1MHz		220		pF

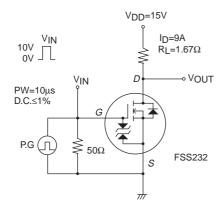
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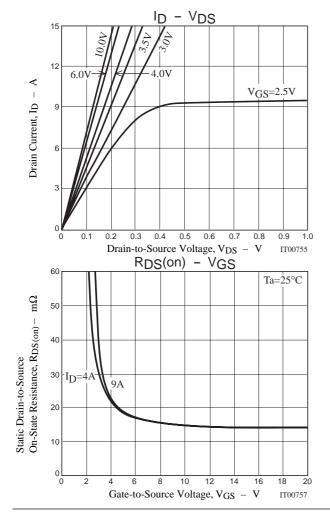
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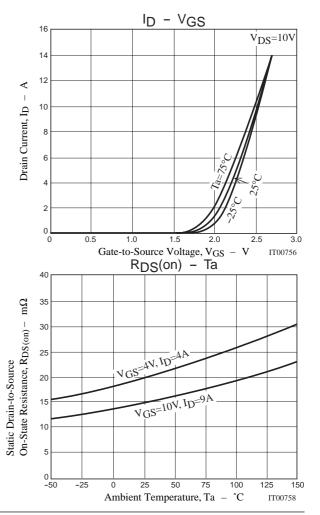
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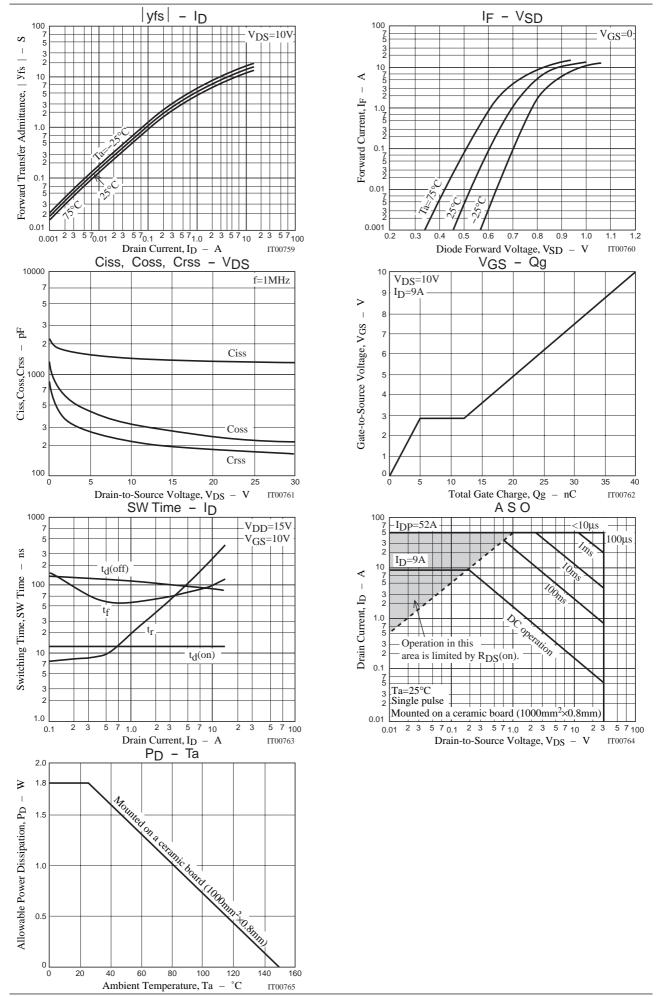
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Office
Turn-ON Delay Time	t _d (on)	See specified Test Circuit		12		ns
Rise Time	t _r	See specified Test Circuit		240		ns
Turn-OFF Delay Time	td(off)	See specified Test Circuit		110		ns
Fall Time	t _f	See specified Test Circuit		95		ns
Total Gate Charge	Qg	V _{DS} =10V, V _{GS} =10V, I _D =9A		40		nC
Gate-to-Source Charge	Qgs	V _{DS} =10V, V _{GS} =10V, I _D =9A		5		nC
Gate-to-Drain "Miller" Charge	Qgd	V _{DS} =10V, V _{GS} =10V, I _D =9A		7		nC
Diode Forward Voltage	V _{SD}	I _S =9A, V _{GS} =0		0.83	1.2	V

Switching Time Test Circuit









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