

Ordering number: ENN6259

N-Channel Silicon MOSFET



FSS242

DC/DC Converter Applications

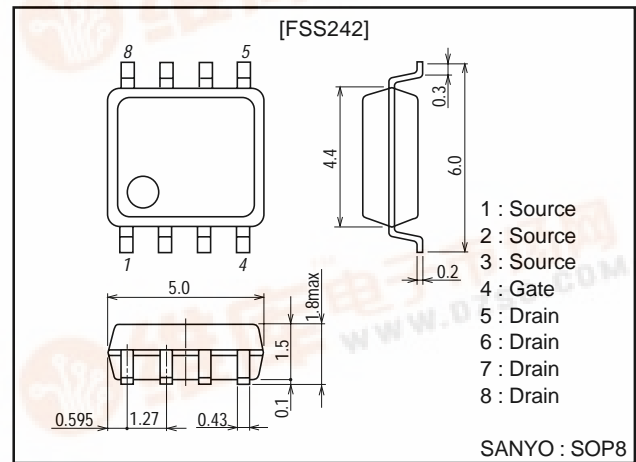
Features

- Low ON resistance.
- 4V drive.
- Ultrahigh-speed switching.

Package Dimensions

unit:mm

2116



Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DS}		30	V
Gate-to-Source Voltage	V _{GS}		±20	V
Drain Current (DC)	I _D		8	A
Drain Current (pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	52	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (1000mm ² ×0.8mm)	1.8	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} =±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	y _{fs}	V _{DS} =10V, I _D =8A	9	13		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =8A, V _{GS} =10V		20	26	mΩ
	R _{DS(on)2}	I _D =4A, V _{GS} =4.5V		28	40	mΩ
Input Capacitance	C _{iss}	V _{DS} =10V, f=1MHz		750		pF
Output Capacitance	C _{oss}	V _{DS} =10V, f=1MHz		280		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =10V, f=1MHz		120		pF

Marking : S242

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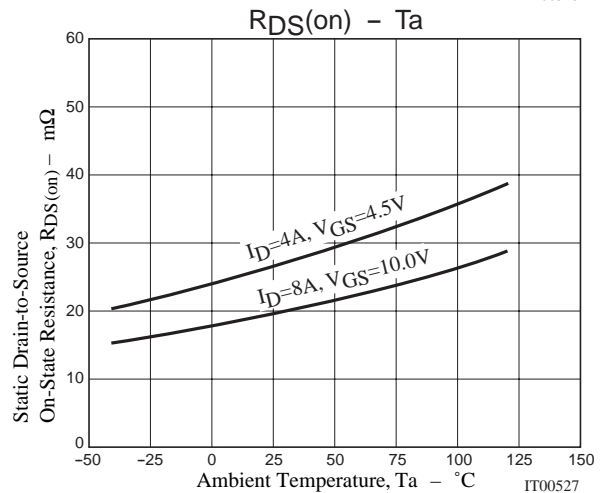
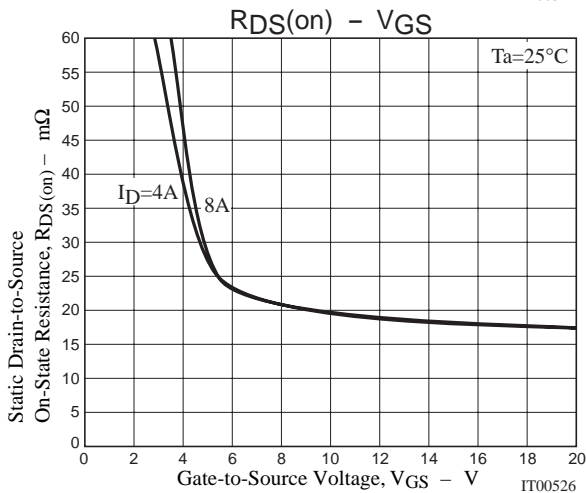
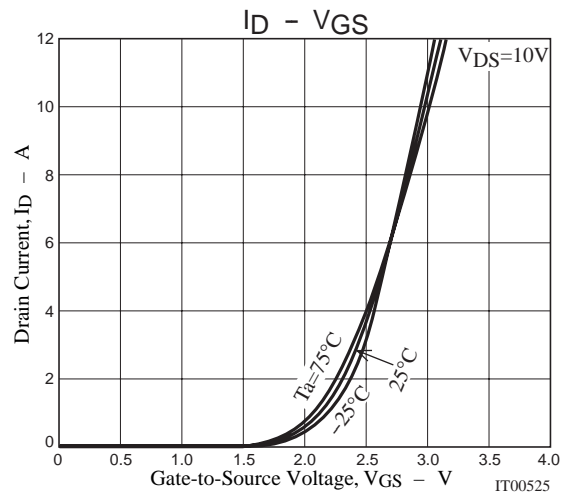
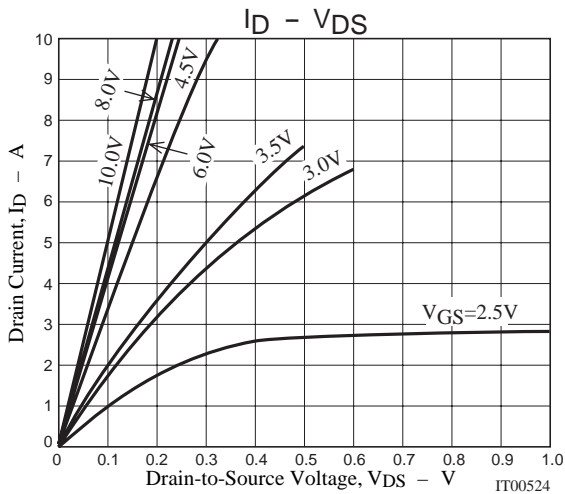
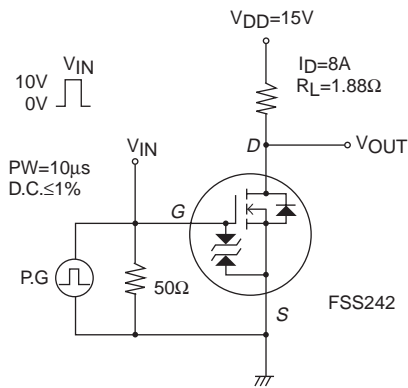


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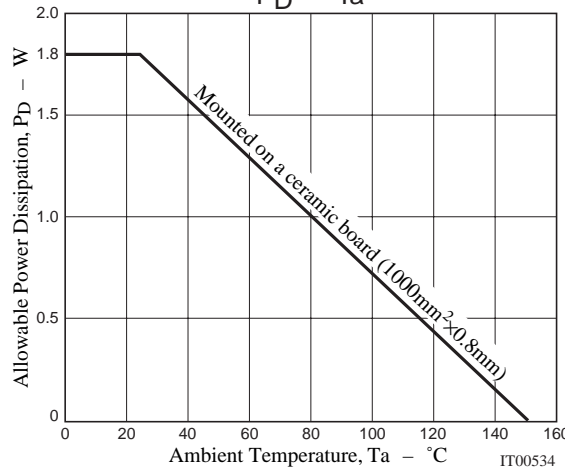
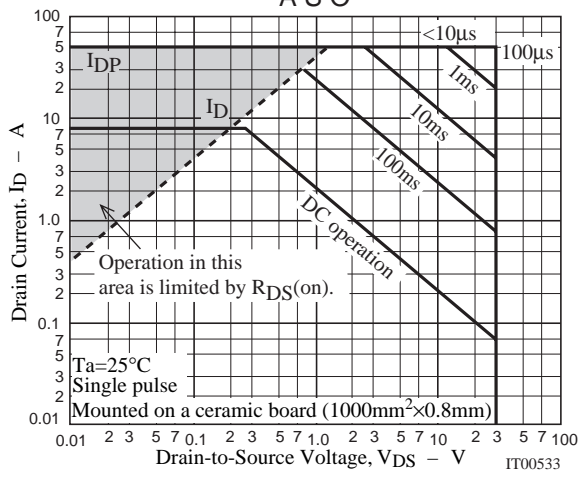
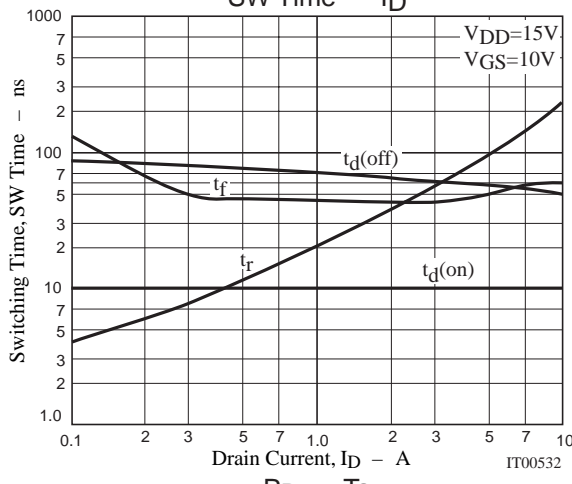
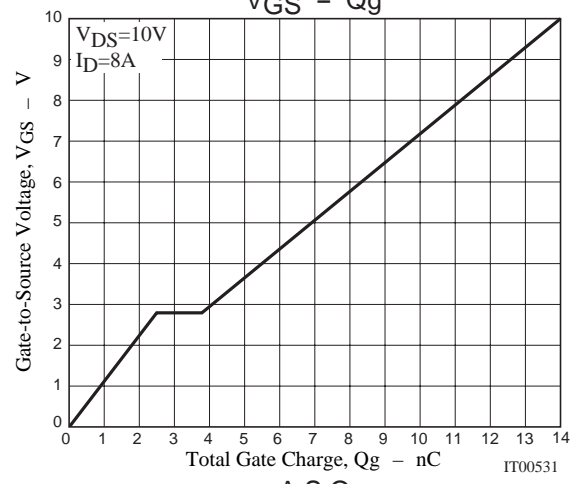
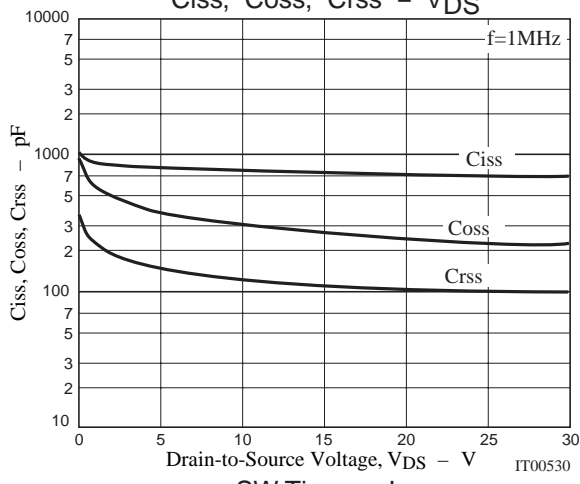
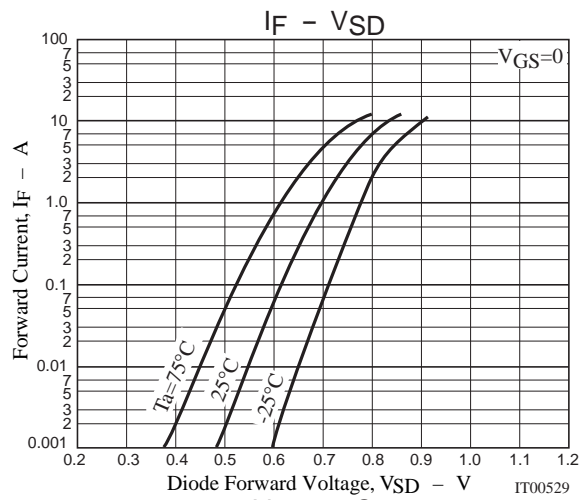
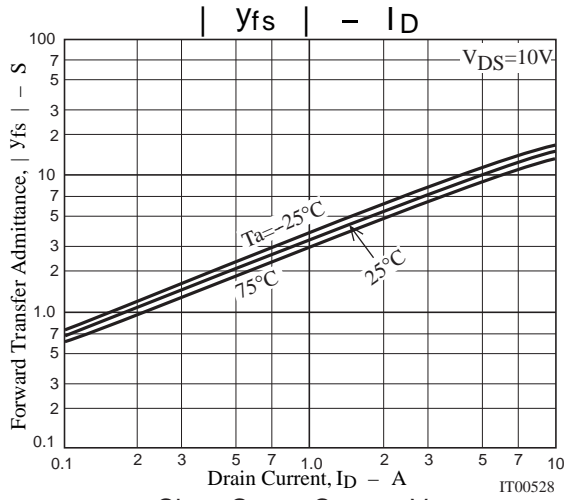
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		10		ns
Rise Time	t_r	See specified Test Circuit		196		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		51		ns
Fall Time	t_f	See specified Test Circuit		60		ns
Total Gate Charge	Qg	$V_{DS}=10V, V_{GS}=10V, I_D=8A$		14		nC
Gate-to-Source Charge	Qgs	$V_{DS}=10V, V_{GS}=10V, I_D=8A$		2.5		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=10V, V_{GS}=10V, I_D=8A$		1.3		nC
Diode Forward Voltage	VSD	$I_S=8A, V_{GS}=0$	0.82	1.2		V

Switching Time Test Circuit



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