

Ordering number:ENN6128

N-Channel Silicon MOSFET



3LN02M

Ultrahigh-Speed Switching Applications

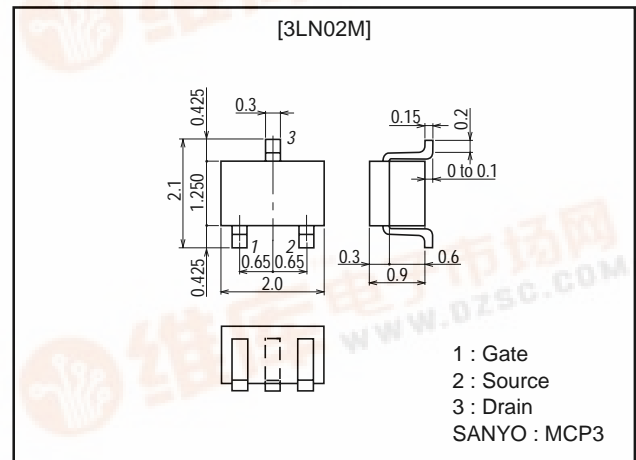
Features

- Low ON resistance.
- Ultrahigh-speed switching.
- 2.5V drive.

Package Dimensions

unit:mm

2158



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		0.3	A
Drain Current (pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	1.2	A
Allowable Power Dissipation	P _D		0.15	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			10	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 =100μA	0.4		1.3	V
Forward Transfer Admittance	y _{fs}	V _{DS} =10V, I _D =150mA	0.4	0.56		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =150mA, V _{GS} =4V		0.9	1.2	Ω
	R _{DS(on)2}	I _D =80mA, V _{GS} =2.5V		1.2	1.7	Ω
	R _{DS(on)3}	I _D =10mA, V _{GS} =1.5V		2.6	5.2	Ω

Marking : YD

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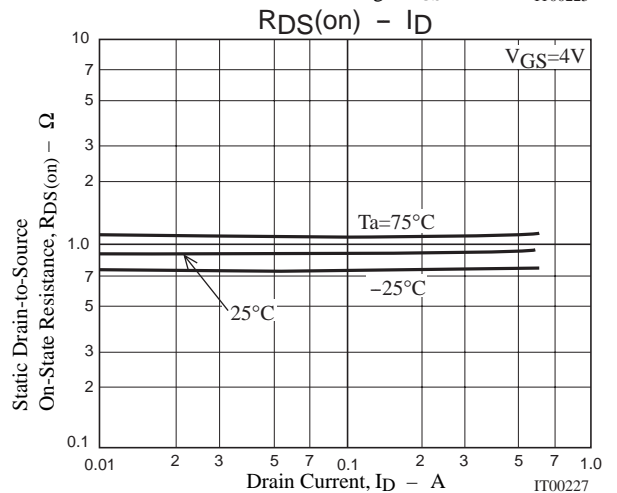
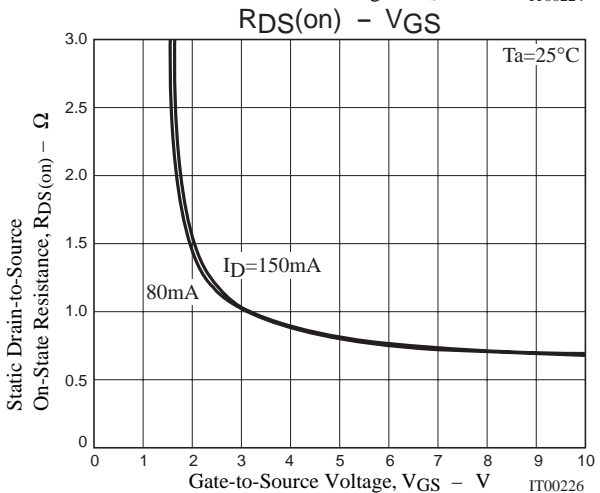
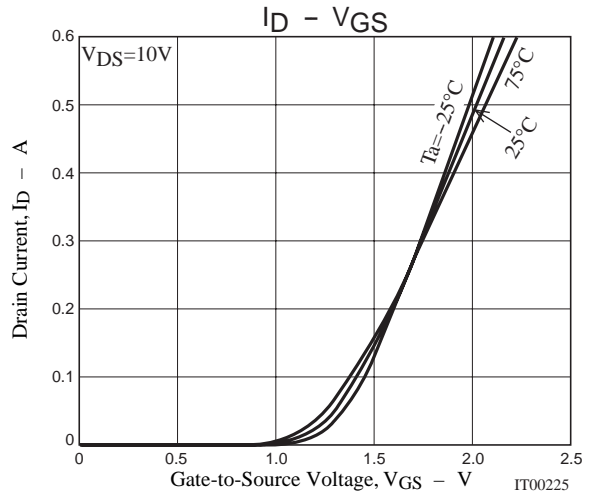
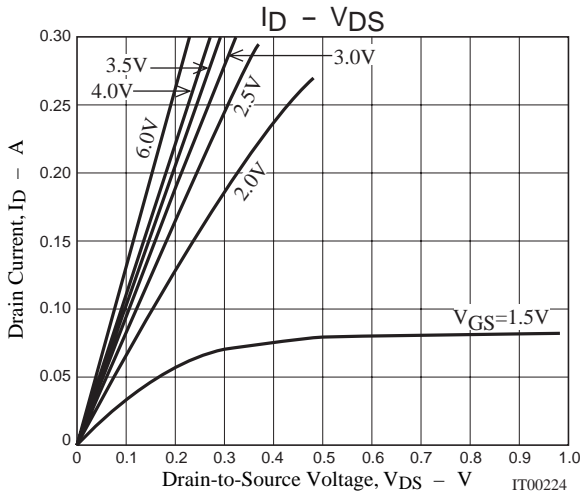
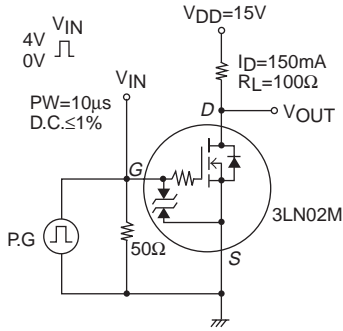


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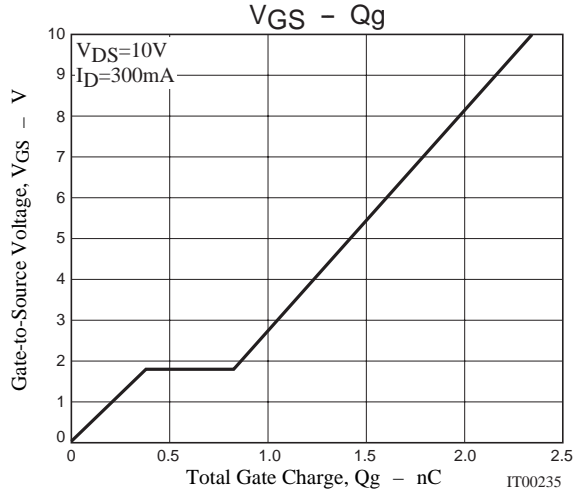
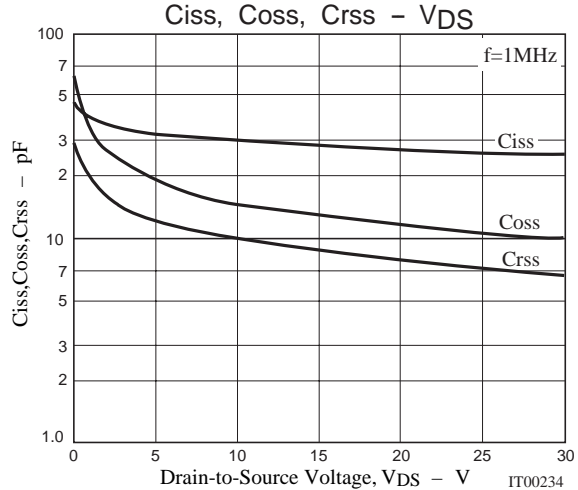
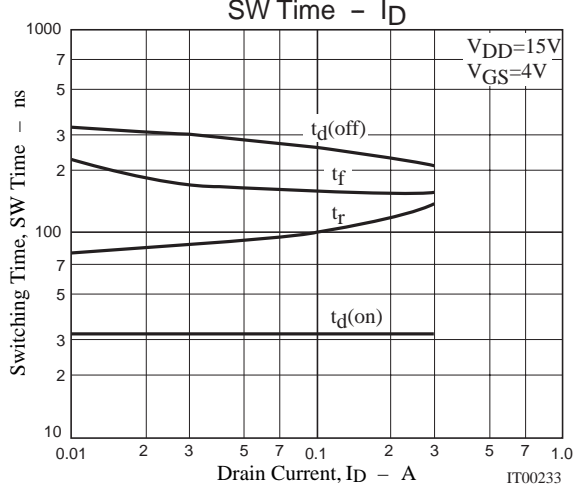
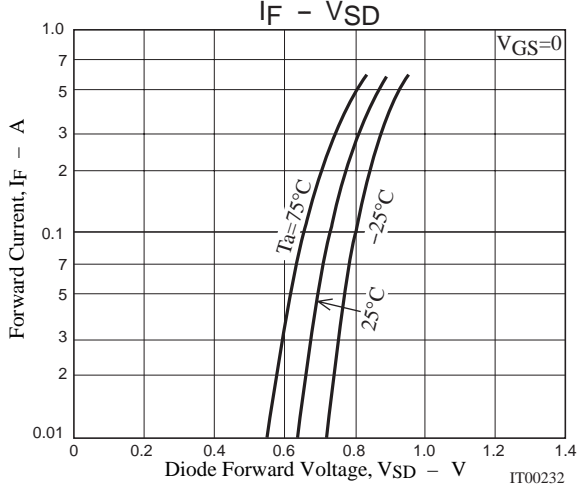
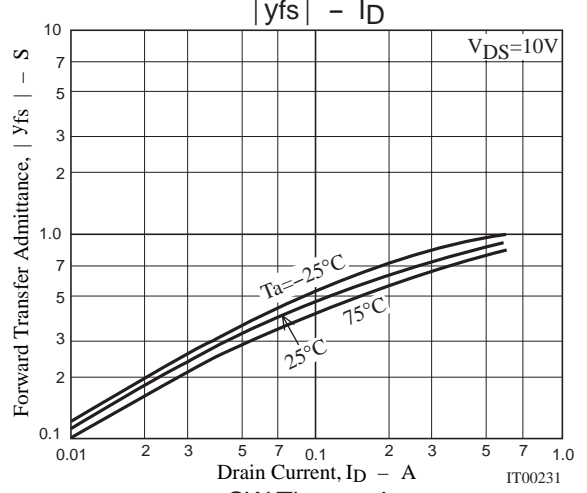
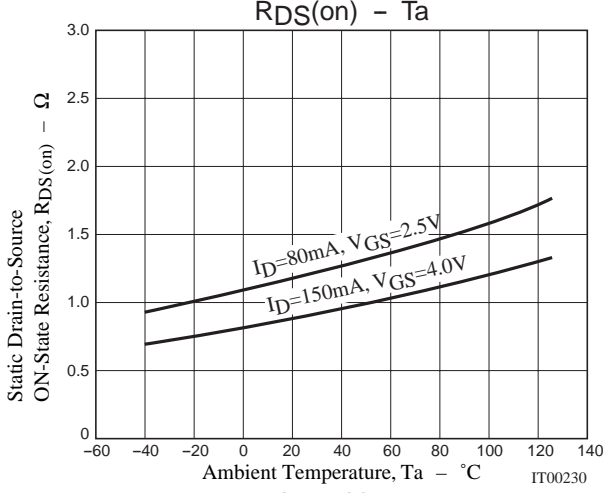
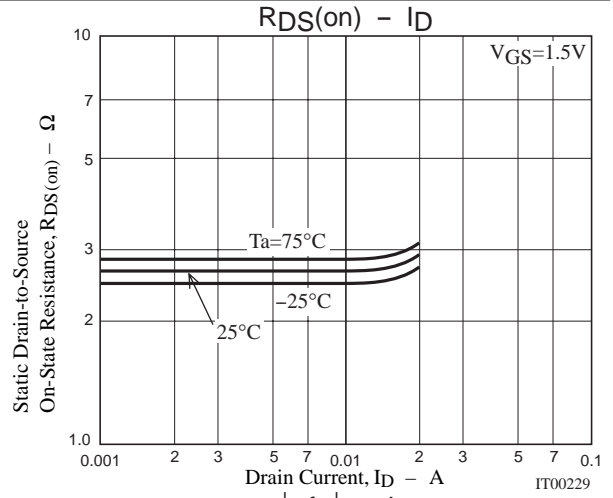
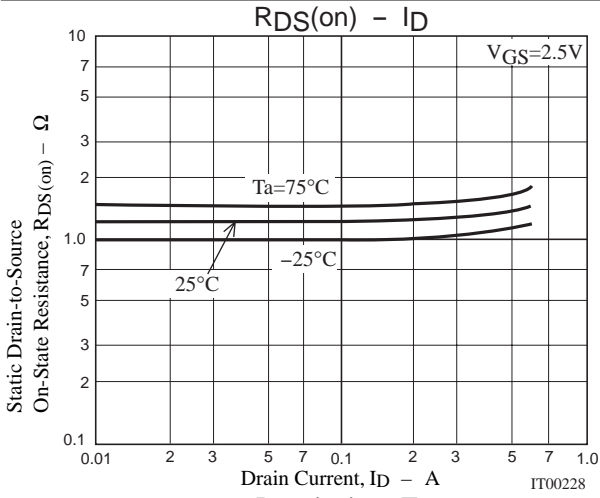
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	$V_{DS}=10V, f=1MHz$		30		pF
Output Capacitance	Coss	$V_{DS}=10V, f=1MHz$		15		pF
Reverse Transfer Capacitance	Crss	$V_{DS}=10V, f=1MHz$		10		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		32		ns
Rise Time	t_r	See specified Test Circuit		110		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		250		ns
Fall Time	t_f	See specified Test Circuit		160		ns
Total Gate Charge	Qg	$V_{DS}=10V, V_{GS}=10V, I_D=300mA$		2.34		nC
Gate-to-Source Charge	Qgs	$V_{DS}=10V, V_{GS}=10V, I_D=300mA$		0.38		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=10V, V_{GS}=10V, I_D=300mA$		0.45		nC
Diode Forward Voltage	V_{SD}	$I_S=300mA, V_{GS}=0$		0.8	1.2	V

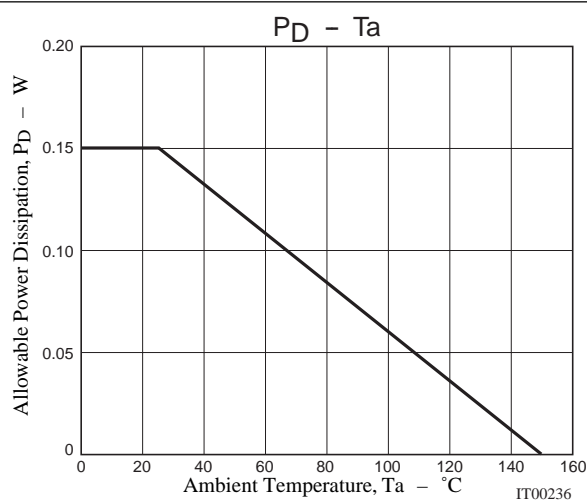
Switching Time Test Circuit



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