

Ordering number : ENN4228B

N-Channel Silicon MOSFET



2SK1412LS

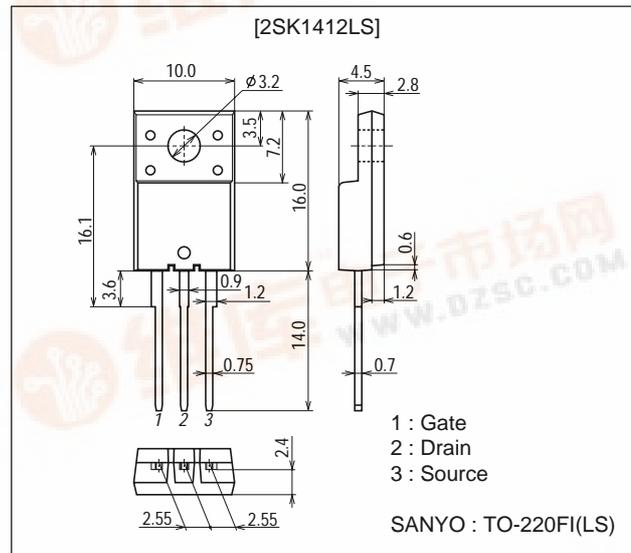
Ultrahigh-Speed Switching Applications

Features

- Low ON-resistance, low input capacitance.
- Ultrahigh-speed switching.
- High reliability (Adoption of HVP process).
- Micaless package facilitating mounting.

Package Dimensions

unit : mm
2078C



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		1500	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		0.1	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	0.2	A
Allowable Power Dissipation	P _D	T _c =25°C	2.0	W
			20	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	1500			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =1200V, V _{GS} =0			100	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} ±20V, V _{DS} =0			±100	nA

(Note) Be careful in handling the 2SK1412LS because it has no protection diode between gate and source.

Continued on next page.

Marking : K1412

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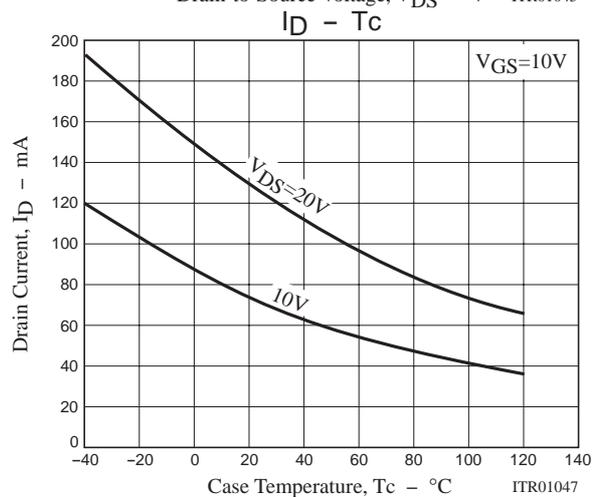
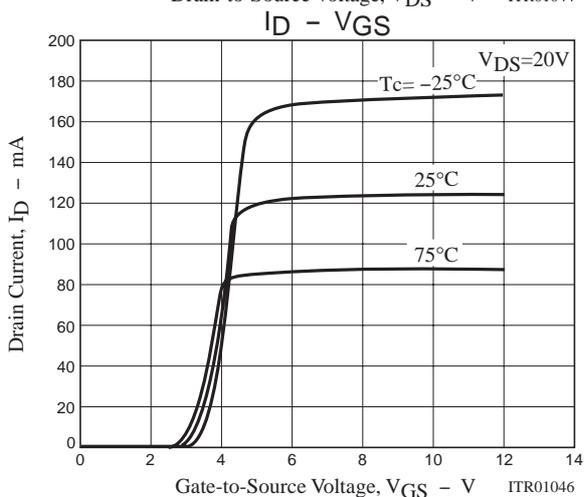
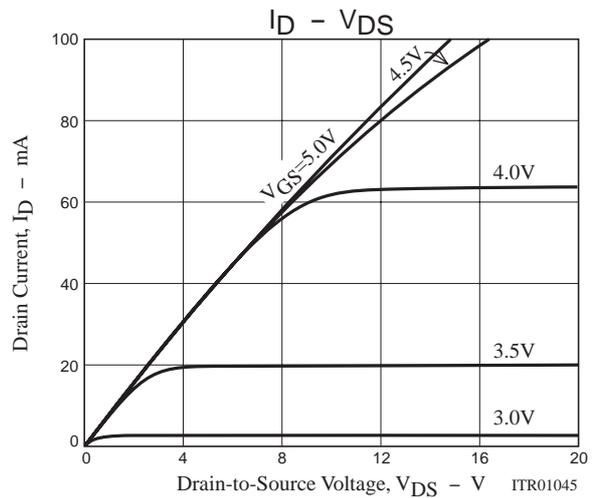
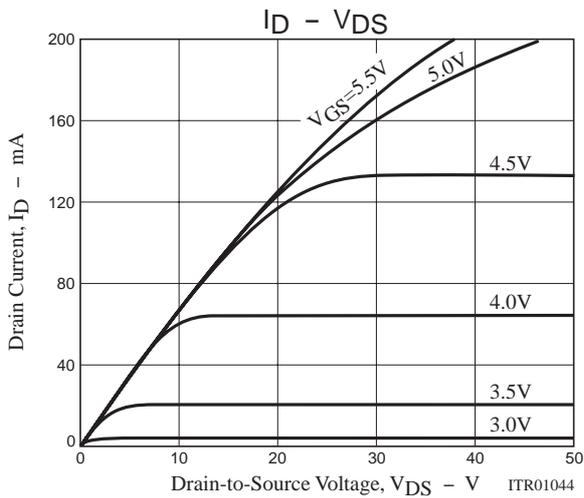
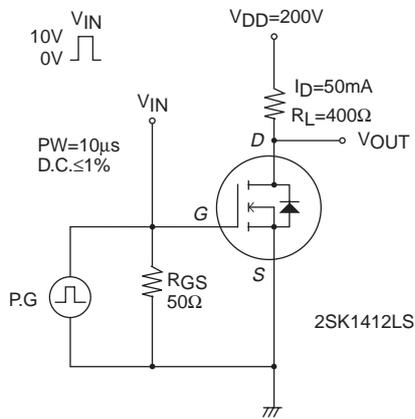


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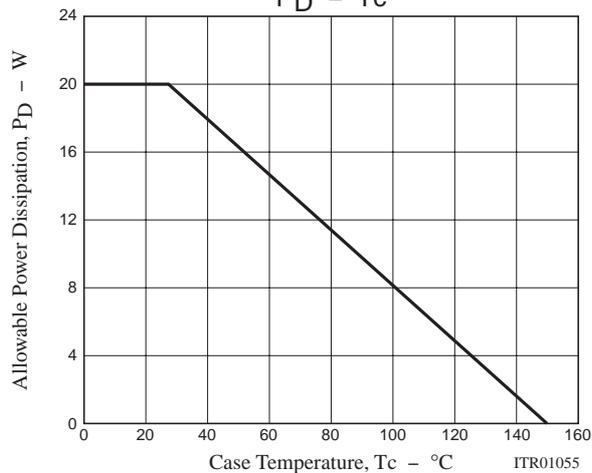
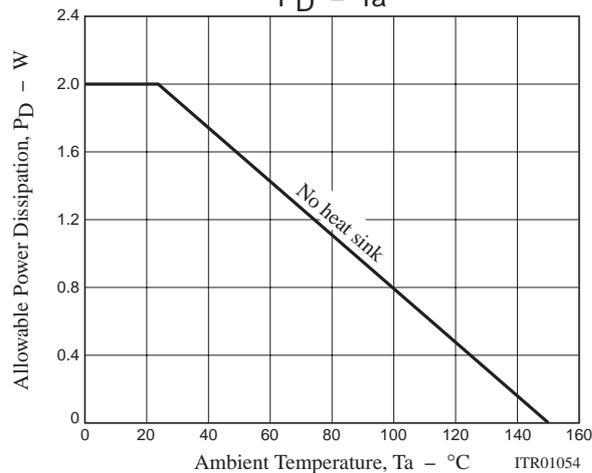
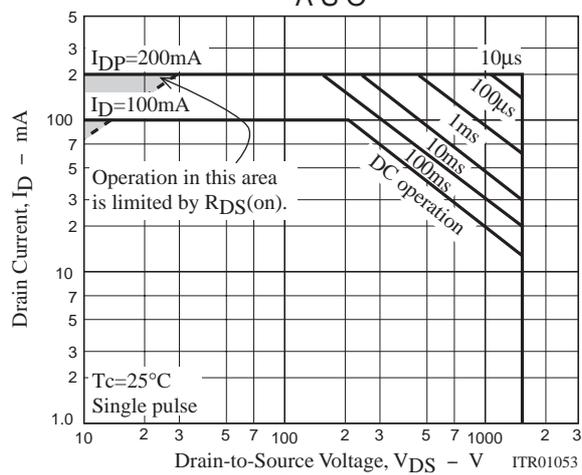
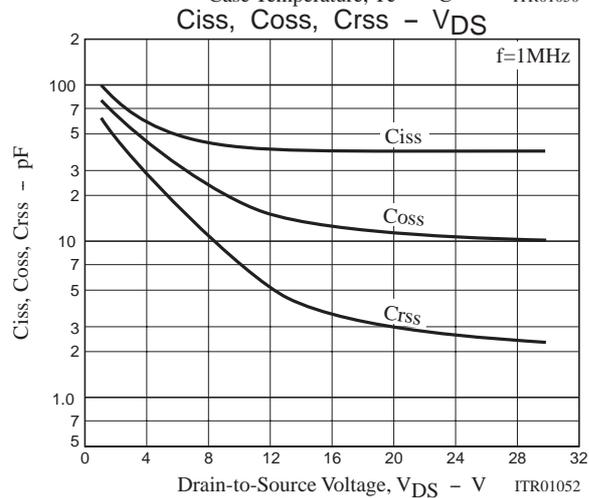
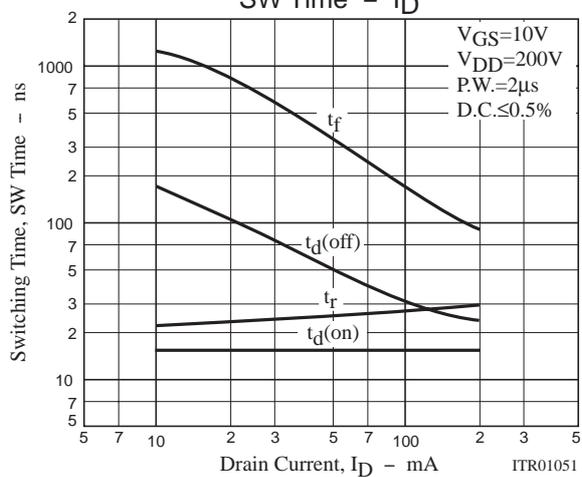
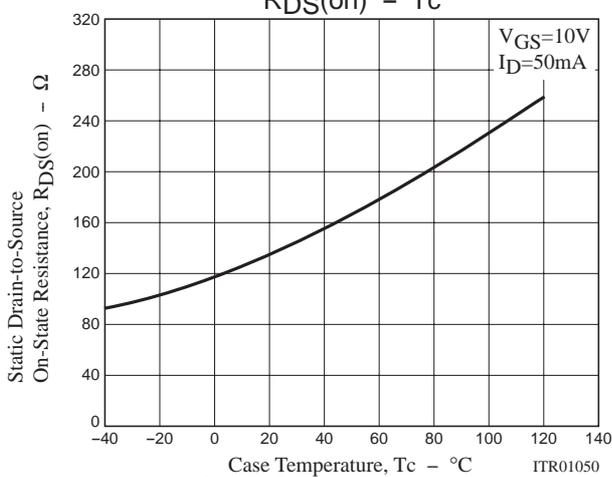
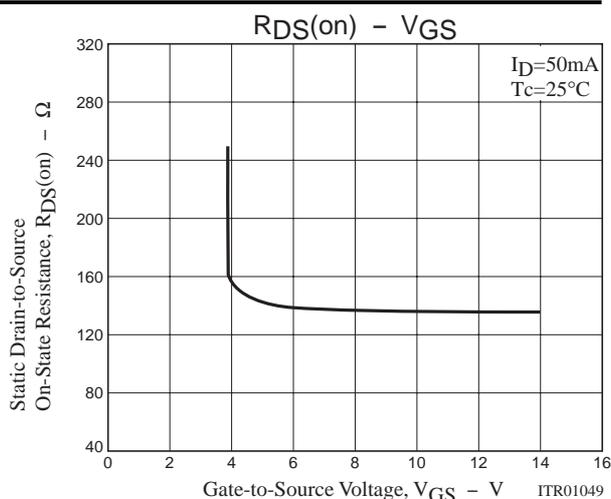
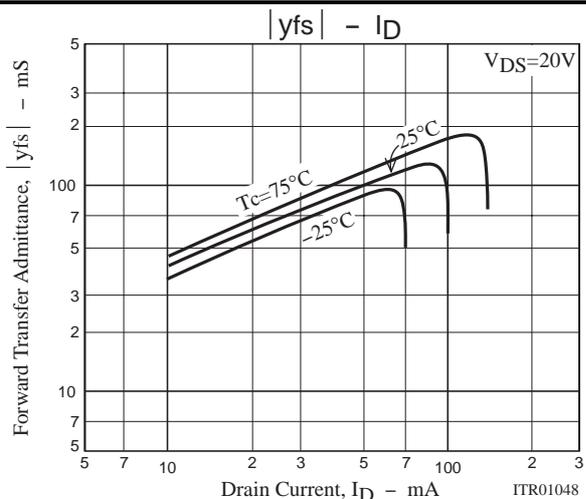
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	1.5		3.5	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=20V, I_D=50mA$	50	100		mS
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	$I_D=50mA, V_{GS}=10V$		140	200	Ω
Input Capacitance	C_{iss}	$V_{DS}=20V, f=1MHz$		40		pF
Output Capacitance	C_{oss}	$V_{DS}=20V, f=1MHz$		12		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=20V, f=1MHz$		3.0		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		15		ns
Rise Time	t_r	See specified Test Circuit.		25		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		50		ns
Fall Time	t_f	See specified Test Circuit.		350		ns
Diode Forward Voltage	V_{SD}	$I_S=0.1A, V_{GS}=0$		1.0	1.5	V

Switching Time Test Circuit



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