

Ordering number : ENN3449B

N-Channel Silicon MOSFET



2SK1446LS

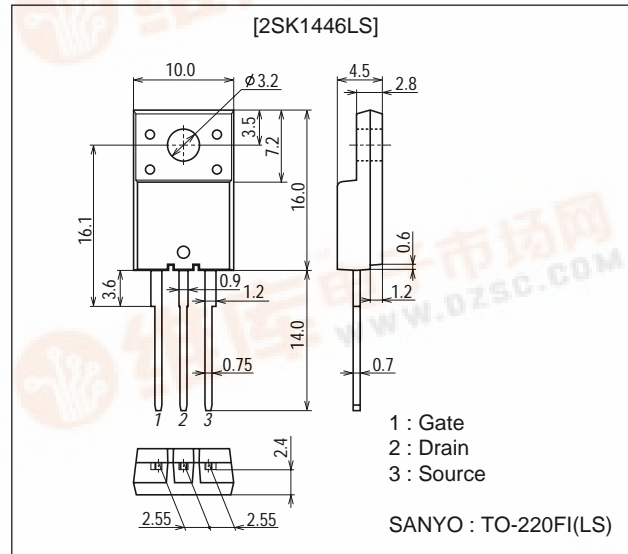
Ultrahigh-Speed Switching Applications

Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 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}		450	V
Gate-to-Source Voltage	V _{GSS}		±30	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	T _c =25°C	2.0	W
			35	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	450			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =450V, V _{GS} =0			1.0	mA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±30V, V _{DS} =0			±100	nA

(Note) Be careful in handling the 2SK1446LS because it has no protection diode between gate and source.

Continued on next page.

Marking : K1446

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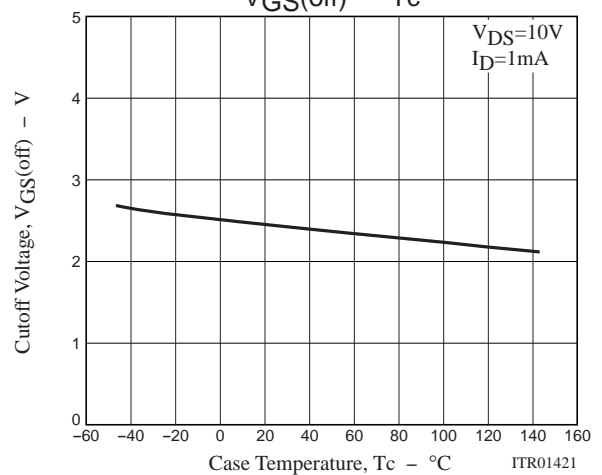
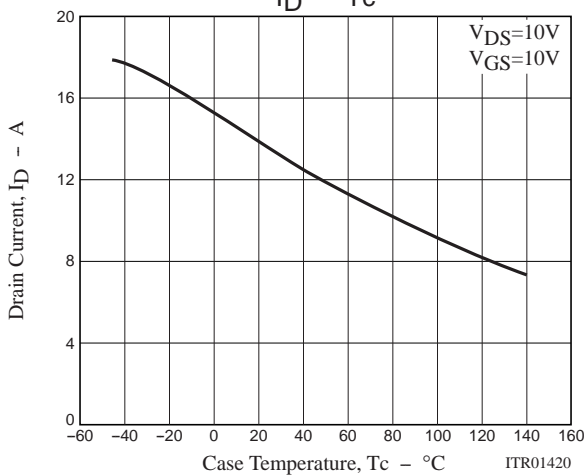
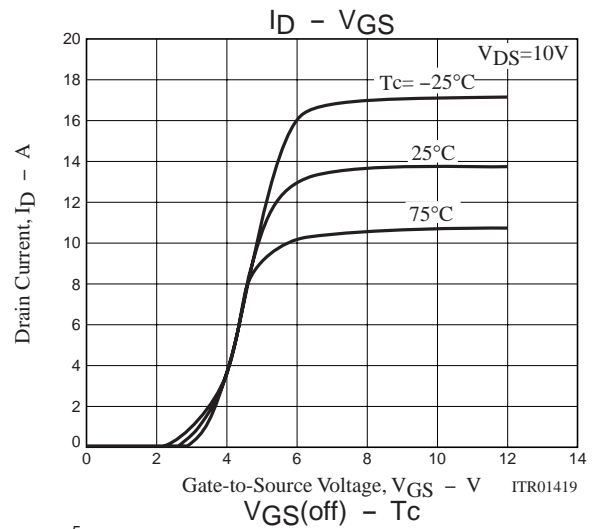
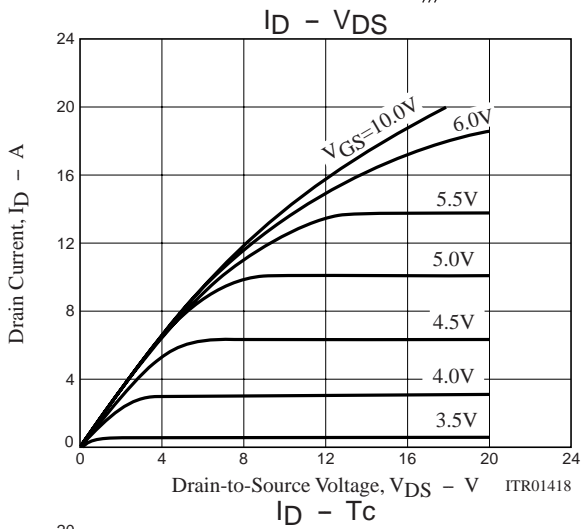
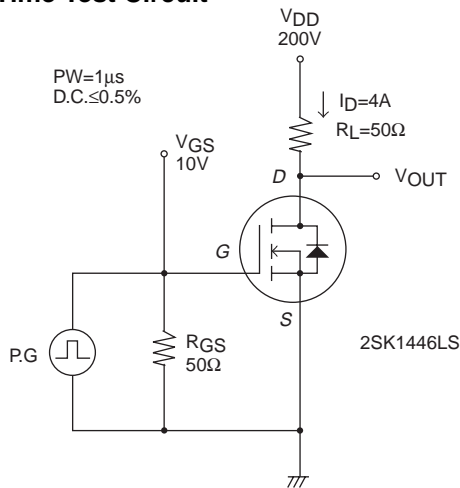


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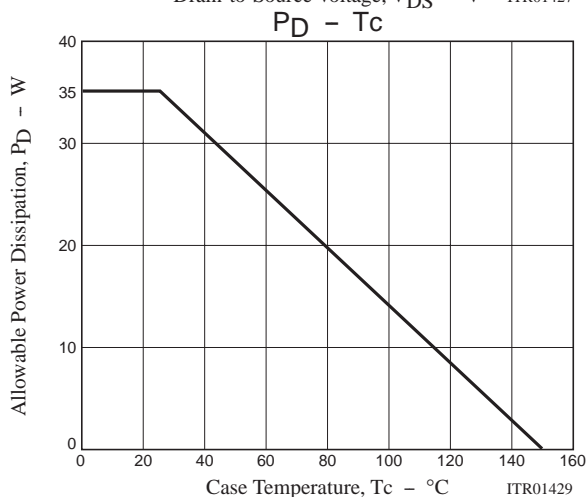
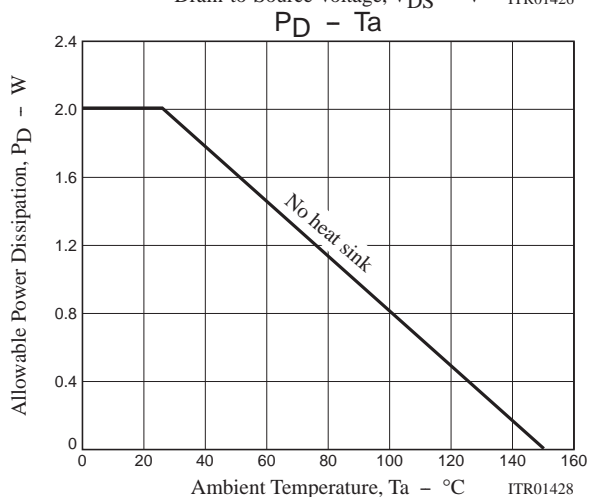
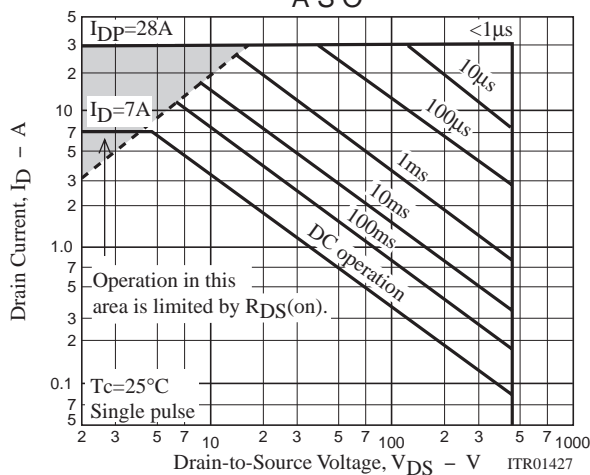
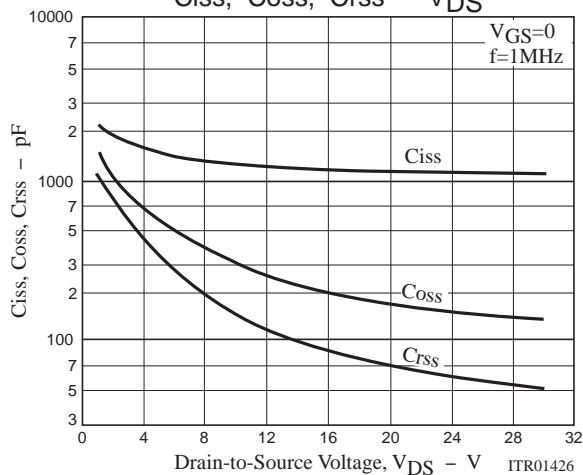
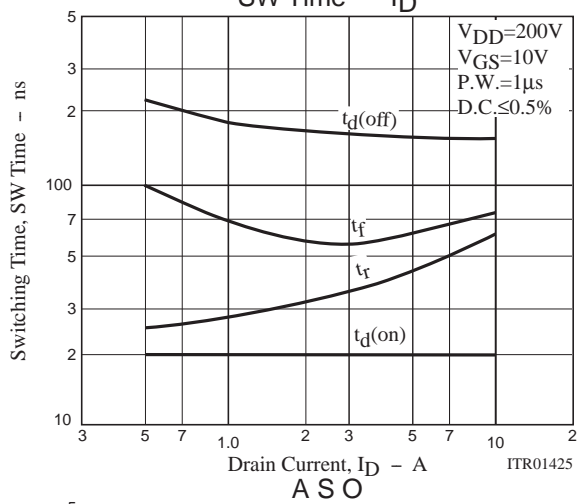
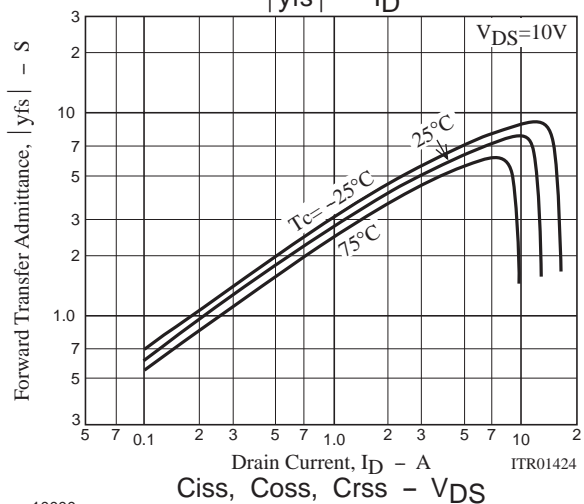
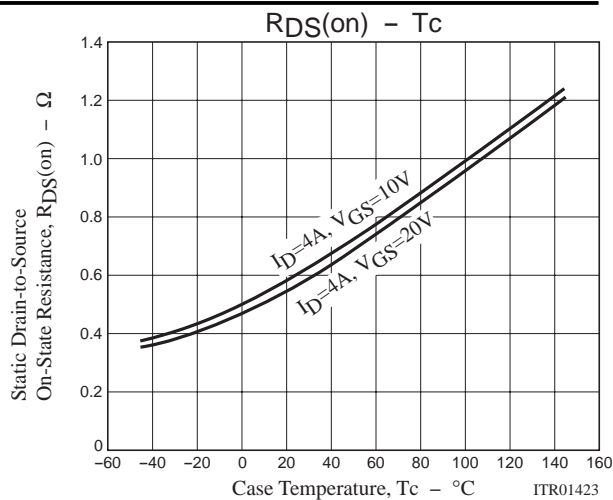
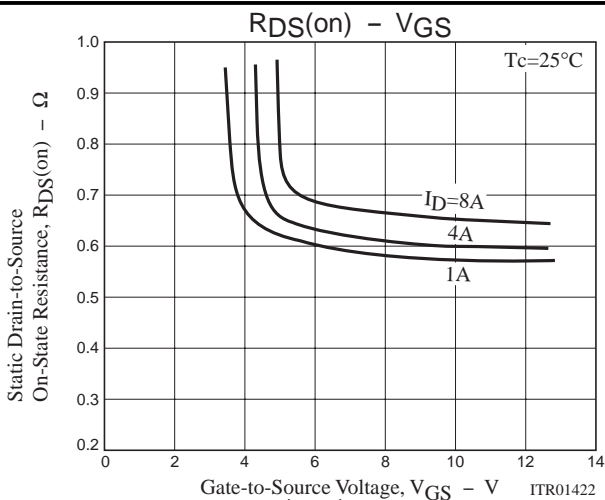
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	2.0		3.0	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=4A$	3.0	6.0		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	$I_D=4A, V_{GS}=10V$		0.6	0.8	Ω
Input Capacitance	C_{iss}	$V_{DS}=20V, f=1MHz$		1200		pF
Output Capacitance	C_{oss}	$V_{DS}=20V, f=1MHz$		180		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=20V, f=1MHz$		70		pF
Turn-ON Delay Time	$t_d(on)$	$I_D=4A, V_{GS}=10V, V_{DD}=200V, R_{GS}=50\Omega$		20		ns
Rise Time	t_r	$I_D=4A, V_{GS}=10V, V_{DD}=200V, R_{GS}=50\Omega$		40		ns
Turn-OFF Delay Time	$t_d(off)$	$I_D=4A, V_{GS}=10V, V_{DD}=200V, R_{GS}=50\Omega$		160		ns
Fall Time	t_f	$I_D=4A, V_{GS}=10V, V_{DD}=200V, R_{GS}=50\Omega$		60		ns
Diode Forward Voltage	V_{SD}	$I_S=7A, V_{GS}=0$			1.8	V

Switching Time Test Circuit



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