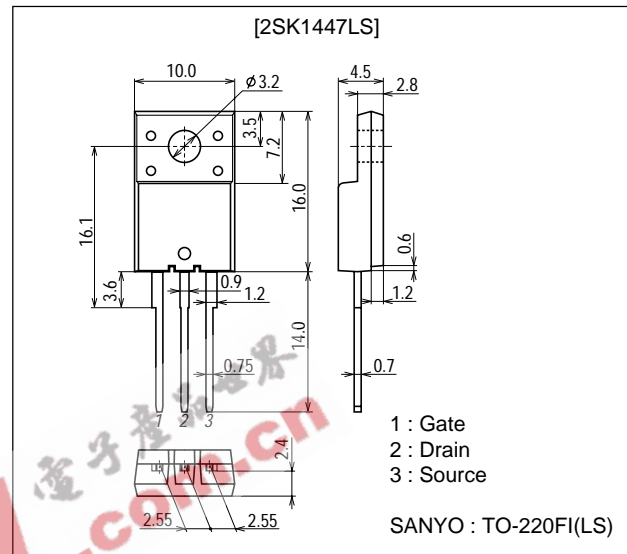


**2SK1447LS****Ultrahigh-Speed Switching Applications****Features**

- Low ON-resistance.
- Ultrahigh-speed switching.
- Micaless package facilitating mounting.

**Package Dimensions**unit : mm  
2078C**Specifications****Absolute Maximum Ratings** at  $T_a=25^\circ\text{C}$ 

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSS}$		450	V
Gate-to-Source Voltage	$V_{GSS}$		$\pm 30$	V
Drain Current (DC)	$I_D$		9	A
Drain Current (Pulse)	$I_{DP}$	$PW \leq 10\mu\text{s}$ , duty cycle $\leq 1\%$	36	A
Allowable Power Dissipation	$P_D$		2.0	W
		$T_c=25^\circ\text{C}$	40	W
Channel Temperature	$T_{ch}$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

**Electrical Characteristics** at  $T_a=25^\circ\text{C}$ 

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1\text{mA}$ , $V_{GS}=0$	450			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=450\text{V}$ , $V_{GS}=0$			1.0	mA
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 30\text{V}$ , $V_{DS}=0$			$\pm 100$	nA

(Note) Be careful in handling the 2SK1447LS because it has no protection diode between gate and source.

Continued on next page.

Marking : K1447

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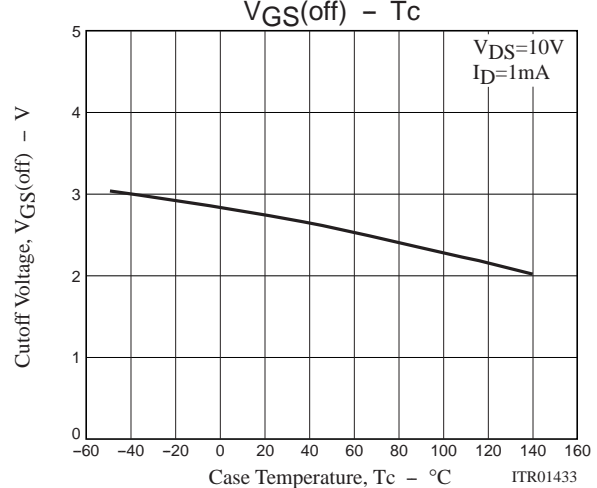
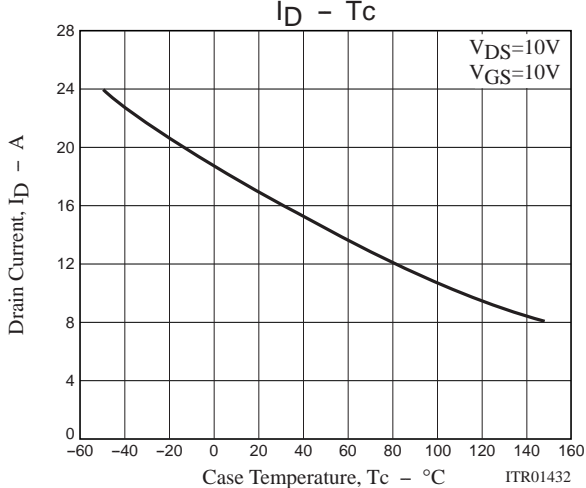
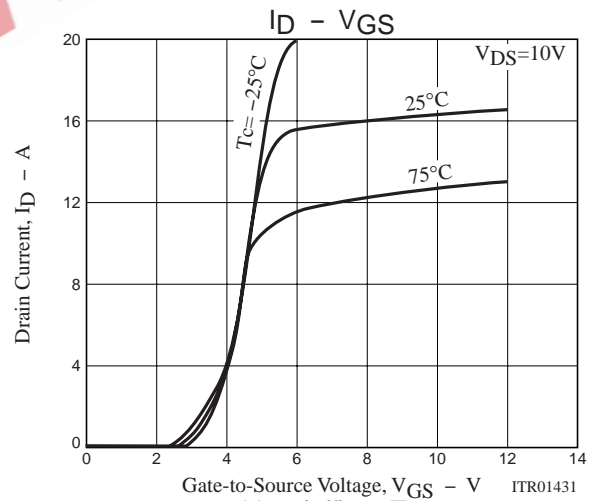
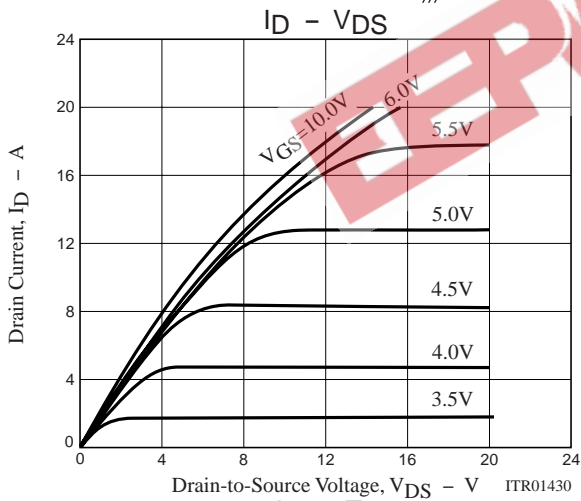
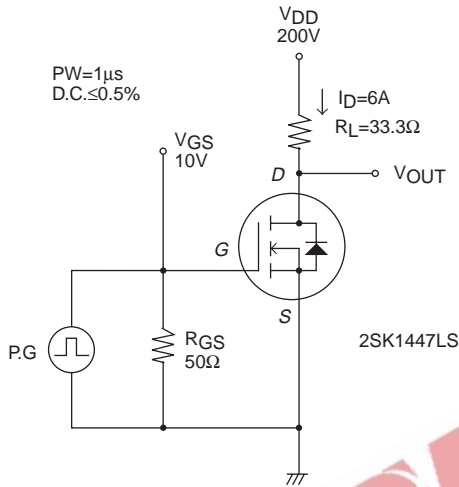
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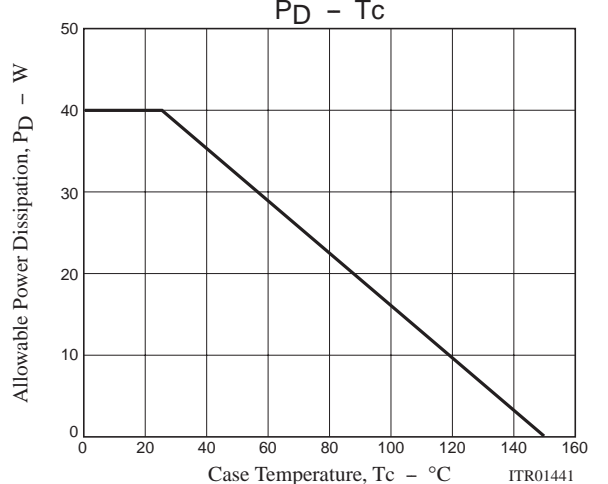
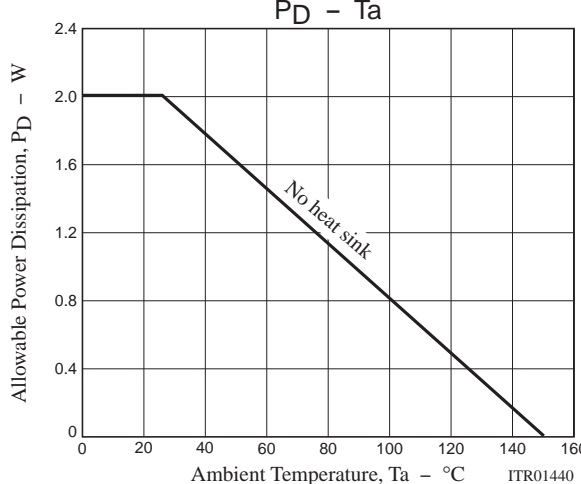
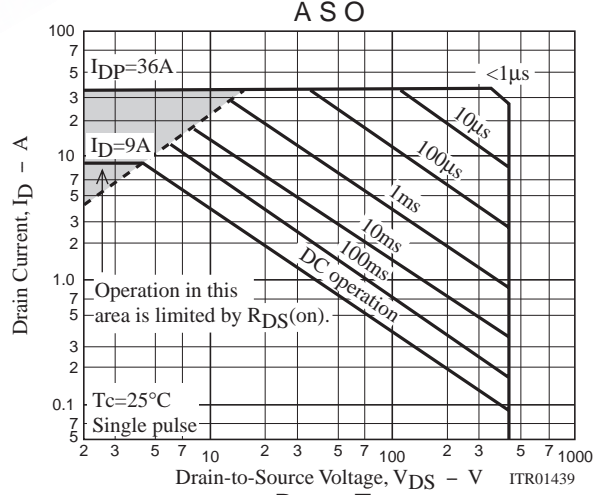
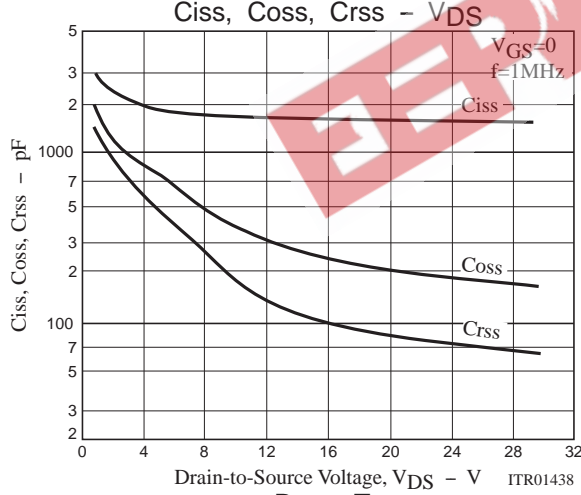
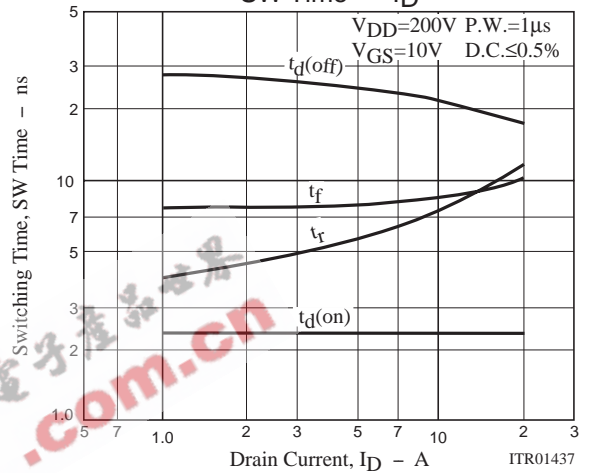
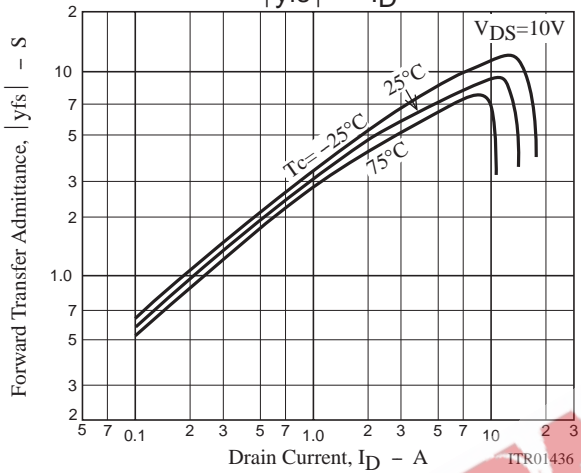
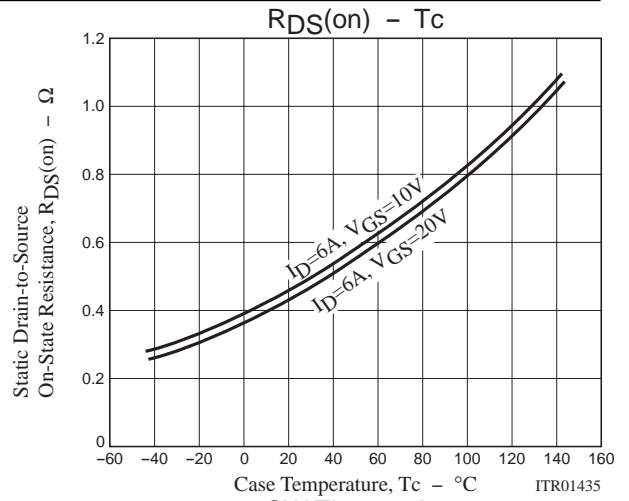
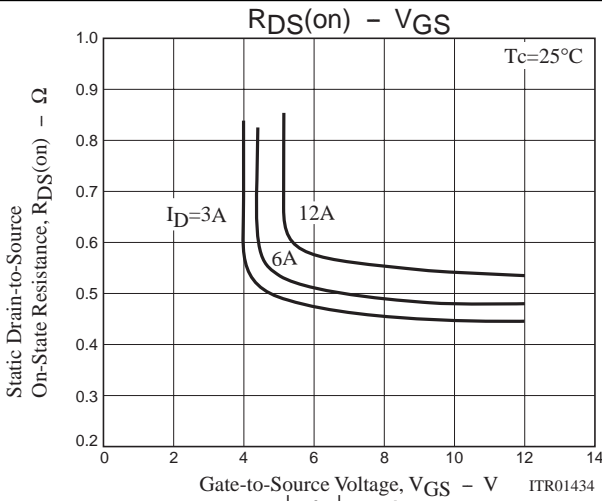
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	2.0		3.0	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=6A$	4.0	8.0		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	$I_D=6A, V_{GS}=10V$		0.47	0.6	$\Omega$
Input Capacitance	$C_{iss}$	$V_{DS}=20V, f=1MHz$		1600		pF
Output Capacitance	$C_{oss}$	$V_{DS}=20V, f=1MHz$		220		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=20V, f=1MHz$		80		pF
Turn-ON Delay Time	$t_d(on)$	$I_D=6A, V_{GS}=10V, V_{DD}=200V, R_{GS}=50\Omega$		25		ns
Rise Time	$t_r$	$I_D=6A, V_{GS}=10V, V_{DD}=200V, R_{GS}=50\Omega$		60		ns
Turn-OFF Delay Time	$t_d(off)$	$I_D=6A, V_{GS}=10V, V_{DD}=200V, R_{GS}=50\Omega$		250		ns
Fall Time	$t_f$	$I_D=6A, V_{GS}=10V, V_{DD}=200V, R_{GS}=50\Omega$		80		ns
Diode Forward Voltage	$V_{SD}$	$I_S=9A, V_{GS}=0$			1.8	V

## Switching Time Test Circuit



# 2SK1447LS



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