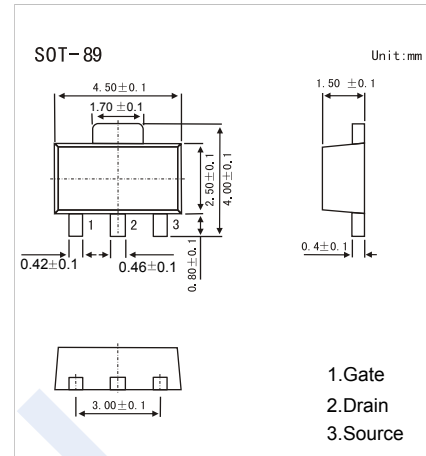
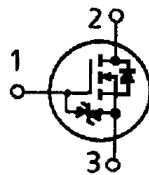


N-Channel MOSFET

2SK2992

■ Features

- $V_{DS} (V) = 200V$
- $I_D = 1 A (V_{GS} = 10V)$
- $R_{DS(ON)} < 3.5 \Omega (V_{GS} = 10V)$
- High Forward Transfer Amplitude
- Low Leakage Current



■ Absolute Maximum Ratings $T_a = 25^\circ C$

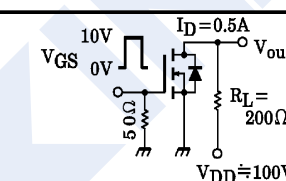
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	200	V
Drain-Gate Voltage ($R_{GS}=20K\Omega$)	V_{DG}	200	
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current	I_D	1	A
Pulsed Drain Current	I_{DM}	3	
Avalanche Current	I_{AR}	1	
Power Dissipation	P_D	1.5	W
Repetitive Avalanche Energy	E_{AR}	0.15	mJ
Single Pulse Avalanche Energy (Note.1)	E_{AS}	36	
Thermal Resistance.Junction- to-Ambient	R_{thJA}	250	$^\circ C/W$
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55 to 150	

Note.1: $V_{DD} = 50 V$, $T_J = 25^\circ C$ (initial), $L = 56.7 mH$, $R_G = 25 \Omega$, $I_{AR} = 1 A$

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■ Electrical Characteristics Ta = 25°C

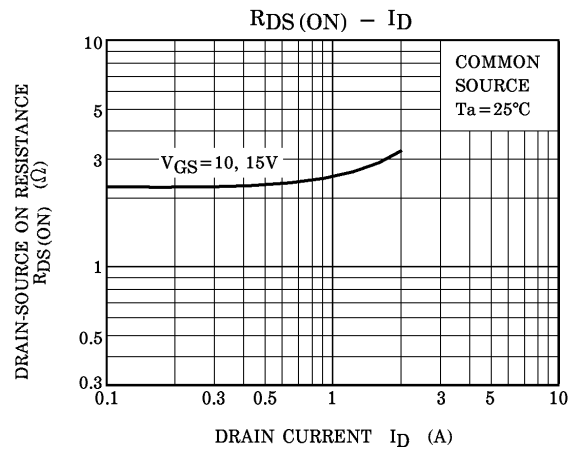
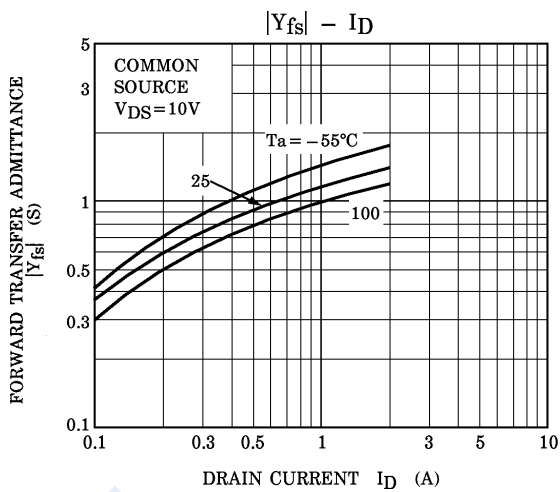
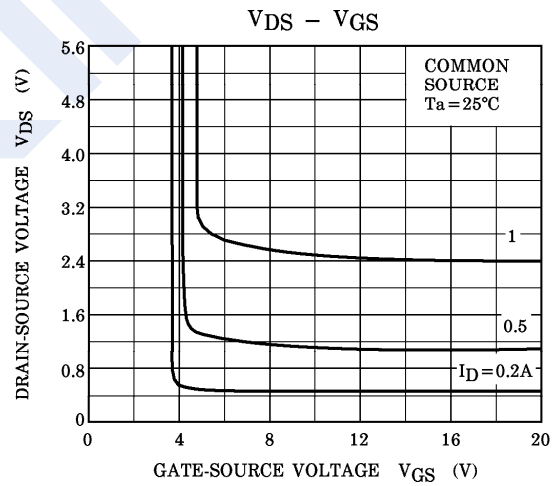
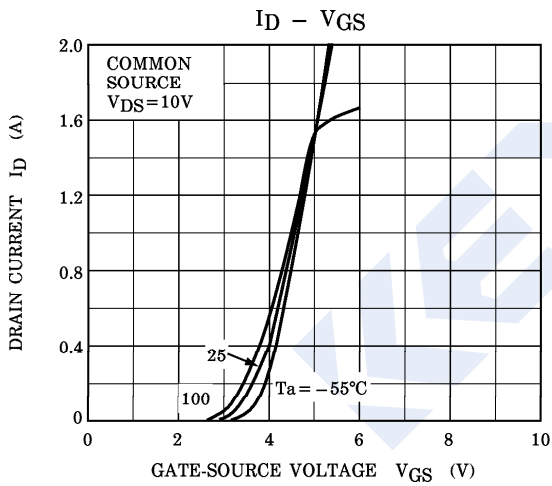
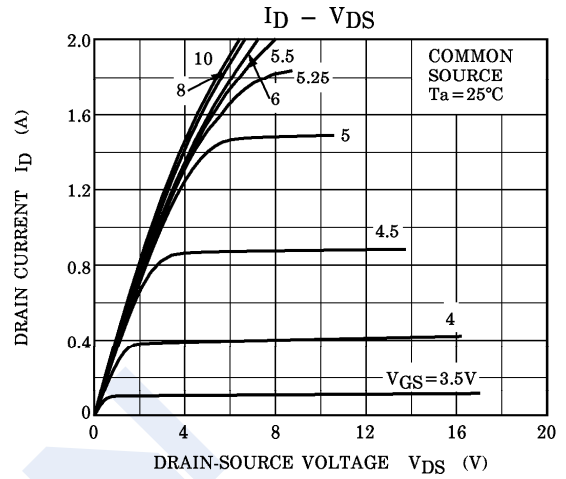
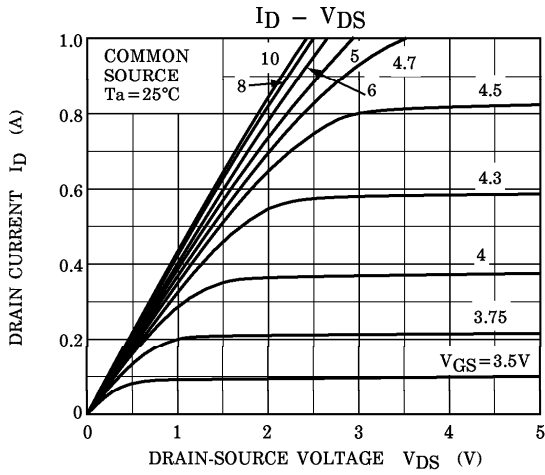
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	I _D =10mA, V _{GS} =0V	200			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =200V, V _{GS} =0V			100	μA
Gate-Body Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±16V			±10	μA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =10V, I _D =1mA	2		3.5	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V, I _D =0.5A			3.5	Ω
Forward Transconductance	g _{FS}	V _{DS} =10V, I _D =0.5A	0.5			S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =10V, f=1MHz		90		pF
Output Capacitance	C _{oss}			10		
Reverse Transfer Capacitance	C _{rss}			30		
Total Gate Charge	Q _g	V _{GS} =10V, V _{DS} =160V, I _D =1A		3		nC
Gate Source Charge	Q _{gs}			1.8		
Gate Drain Charge	Q _{gd}			1.2		
Turn-On DelayTime	t _{d(on)}	 <p>V_{IN} : t_r, t_f < 5ns, Duty ≤ 1%, t_w = 10μs</p>		17	ns	
Turn-On Rise Time	t _r			9		
Turn-Off DelayTime	t _{d(off)}			45		
Turn-Off Fall Time	t _f			16		
Body Diode Reverse Recovery Time	t _{rr}		I _{DR} = 1A, V _{GS} =0, di/dt= 100A/μs			85
Body Diode Reverse Recovery Charge	Q _{rr}			190		nC
Maximum Body-Diode Continuous Current	I _S				1	A
Pulse Drain Reverse Current	I _{SM}				3	
Diode Forward Voltage	V _{SD}	I _S =1A, V _{GS} =0V			1.5	V

■ Marking

Marking	ZD
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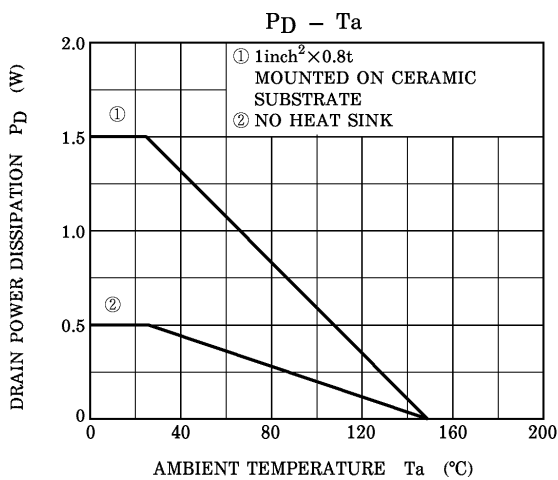
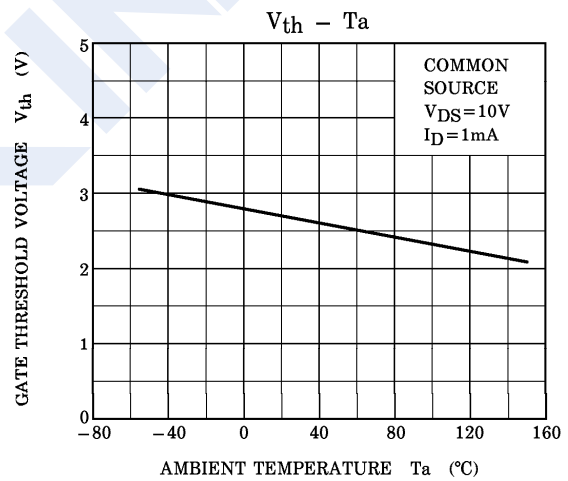
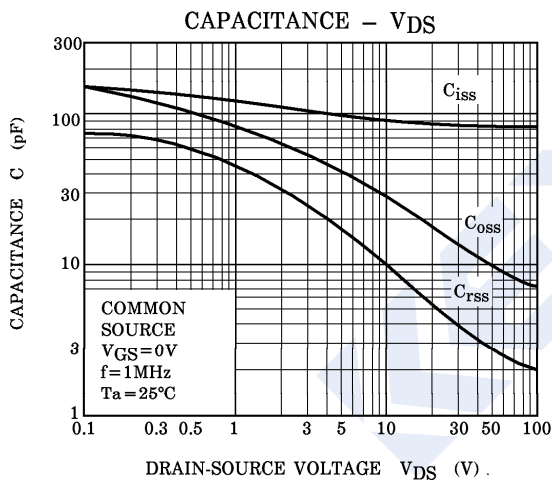
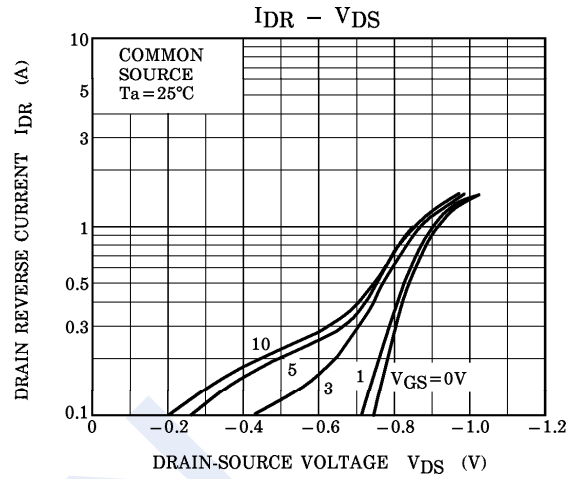
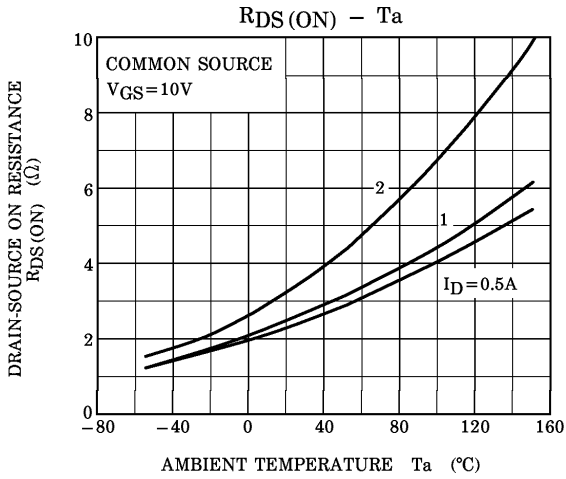
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■ Typical Characteristics



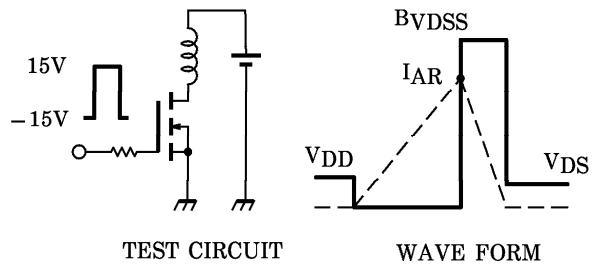
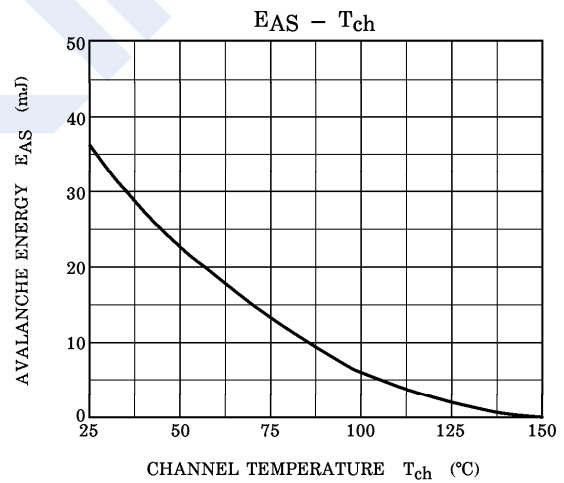
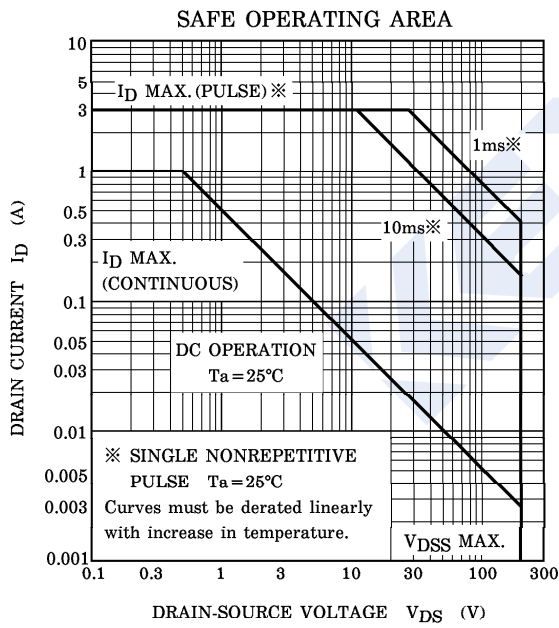
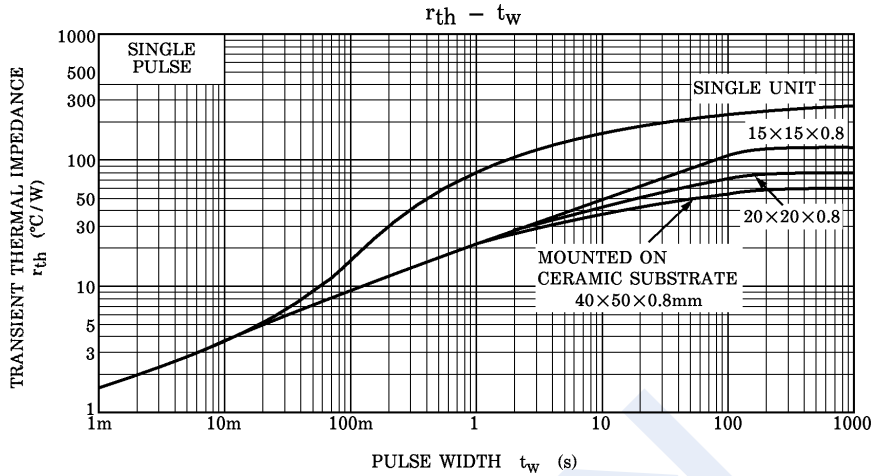
N-Channel MOSFET 2SK2992

■ Typical Characteristics



N-Channel MOSFET 2SK2992

■ Typical Characteristics



Peak $I_{AR} = 1\text{A}$, $R_G = 25\Omega$
 $V_{DD} = 50\text{V}$, $L = 56.7\text{mH}$

$$E_{AS} = \frac{1}{2} \cdot L \cdot I^2 \cdot \left(\frac{B_{V_{DSS}}}{B_{V_{DSS}} - V_{DD}} \right)$$