



Ultrahigh-Speed Switching Applications

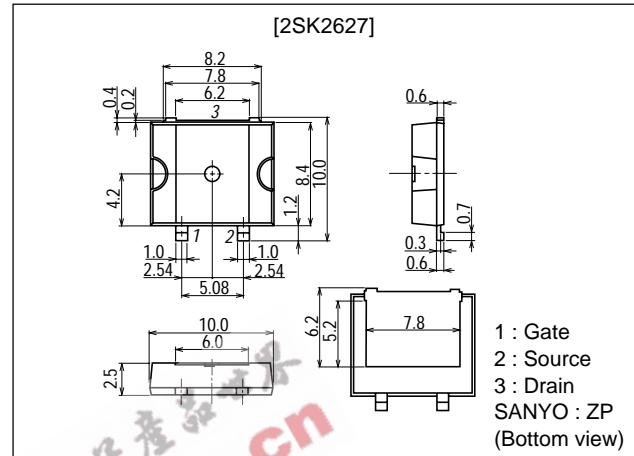
Features

- Low ON-resistance.
- Low Qg.

Package Dimensions

unit:mm

2128



Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		600	V
Gate-to-Source Voltage	V_{GS}		± 30	V
Drain Current (DC)	I_D		5	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10 \mu s$, duty cycle $\leq 1\%$	20	A
Allowable Power Dissipation	P_D	$T_c = 25^\circ C$	40	W
Channel Temperature	T_{ch}		150	$^\circ C$
Storage Temperature	T_{sig}		-55 to +150	$^\circ C$

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 1mA$, $V_{GS} = 0$	600			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 600V$, $V_{GS} = 0$			1.0	mA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS} = \pm 30V$, $V_{DS} = 0$			± 100	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10V$, $I_D = 1mA$	3.5		5.5	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 10V$, $I_D = 2.5A$	1.5	3.0		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	$I_D = 2.5A$, $V_{GS} = 15V$		1.5	2.0	Ω
Input Capacitance	C_{iss}	$V_{DS} = 20V$, $f = 1MHz$		700		pF
Output Capacitance	C_{oss}	$V_{DS} = 20V$, $f = 1MHz$		220		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 20V$, $f = 1MHz$		110		pF

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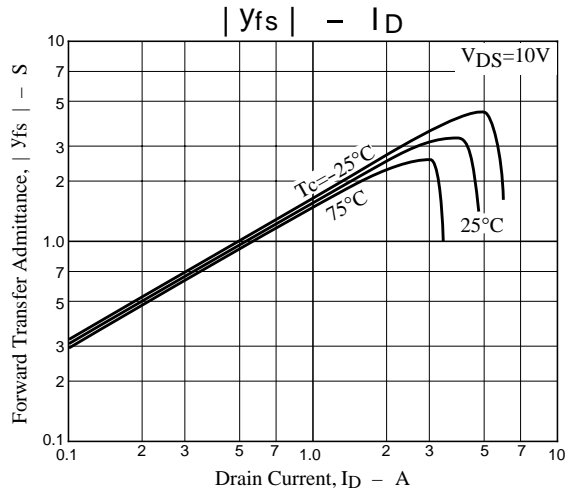
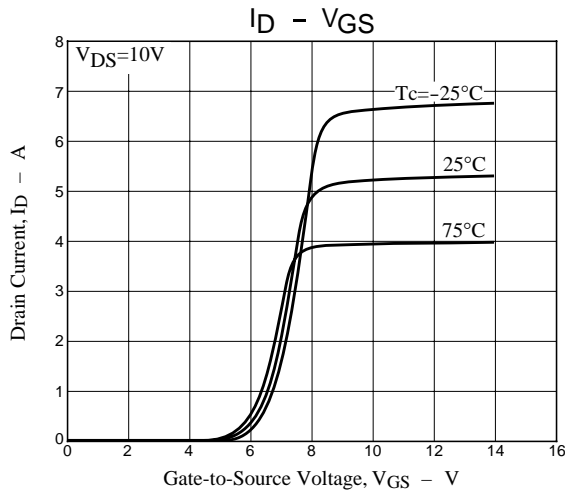
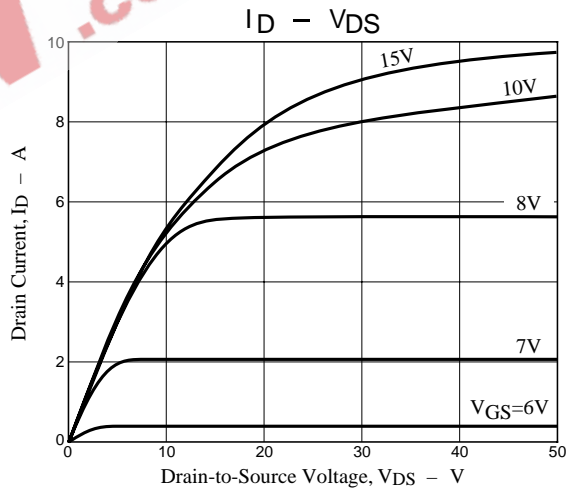
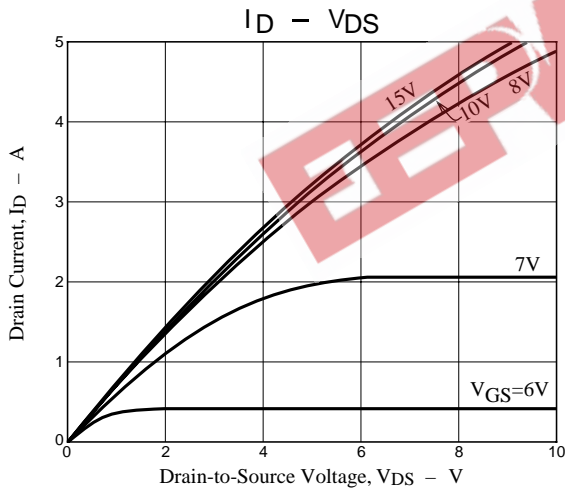
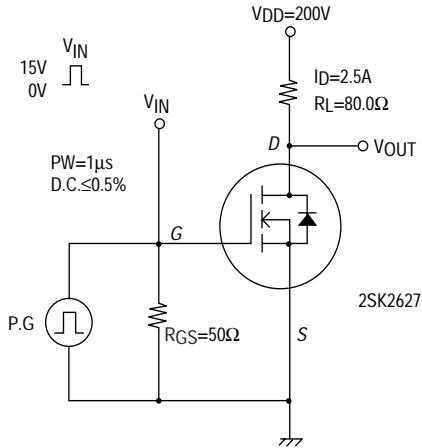
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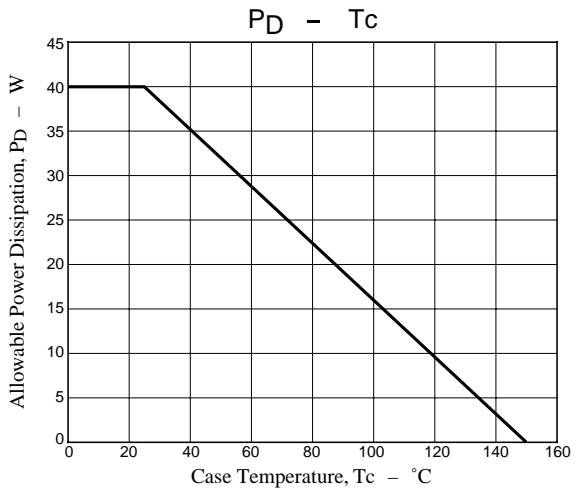
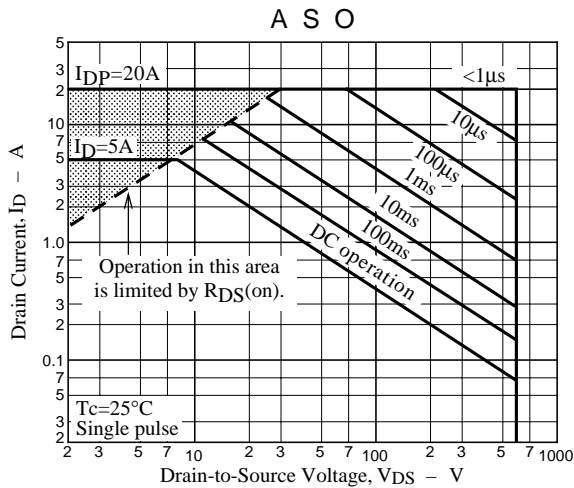
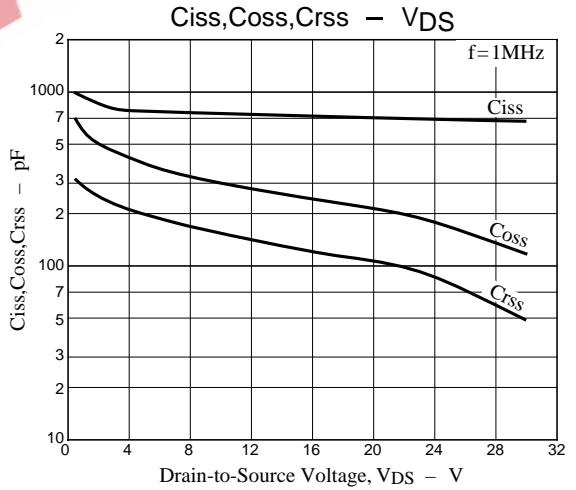
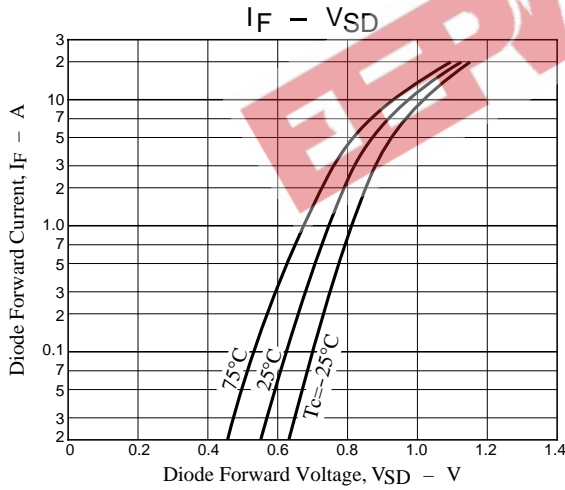
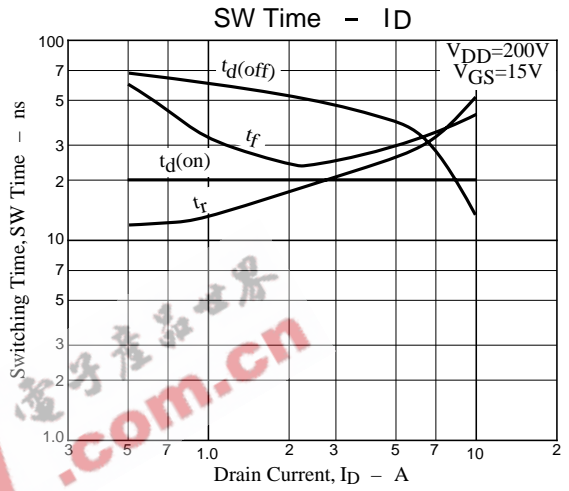
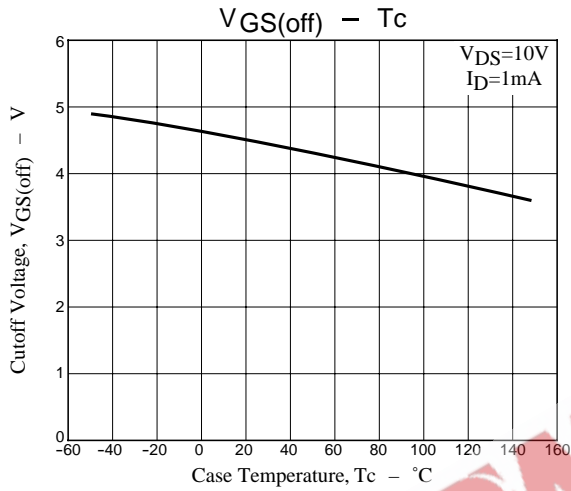
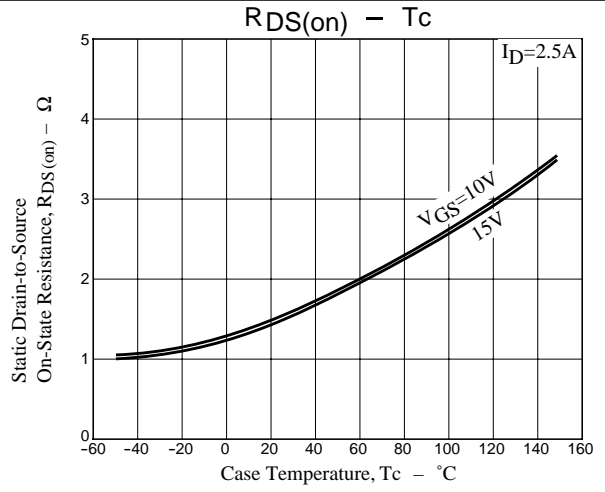
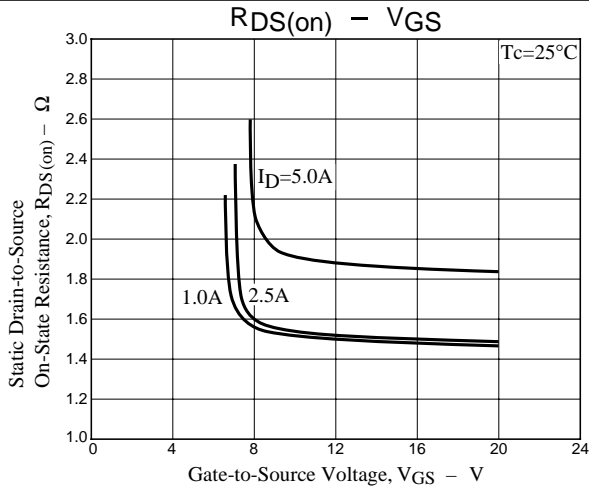
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	$V_{DS}=200V, V_{GS}=10V, I_D=5A$		20		nC
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		20		ns
Rise Time	t_r	See specified Test Circuit		20		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		50		ns
Fall Time	t_f	See specified Test Circuit		25		ns
Diode Forward Voltage	V_{SD}	$I_S=5A, V_{GS}=0$	0.87	1.2		V

Switching Time Test Circuit



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