



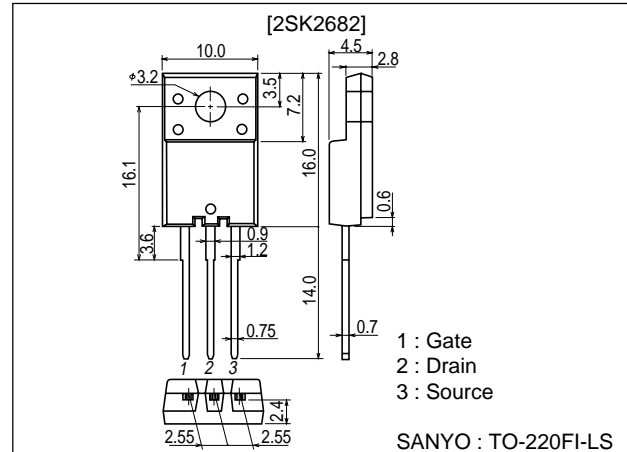
Ultrahigh-Speed Switching Applications

Features

- Low ON-resistance.
- High-speed diode.
- Micaless package facilitating mounting.

Package Dimensions

unit : mm
2078B



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		250	V
Gate-to-Source Voltage	V _{GSS}		±30	V
Drain Current (DC)	I _D		13	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	52	A
Allowable Power Dissipation	P _D		2	W
		T _c =25°C	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	250			V
Gate-to-Source Breakdown Voltage	V(BR)GSS	I _G =±100μA, V _{DS} =0	±30			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =250V, V _{GS} =0			1.0	mA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±25V, V _{DS} =0			±10	μA
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	6	10		S
Static Drain-to-Source On-State Resistance	R _{DS(on)}	I _D =6A, V _{GS} =10V		200	270	mΩ

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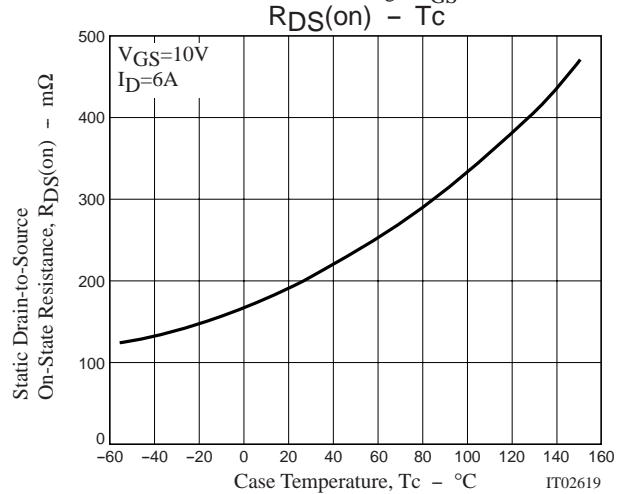
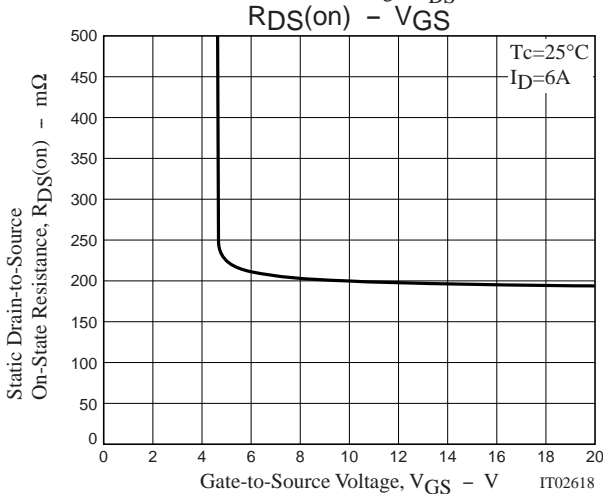
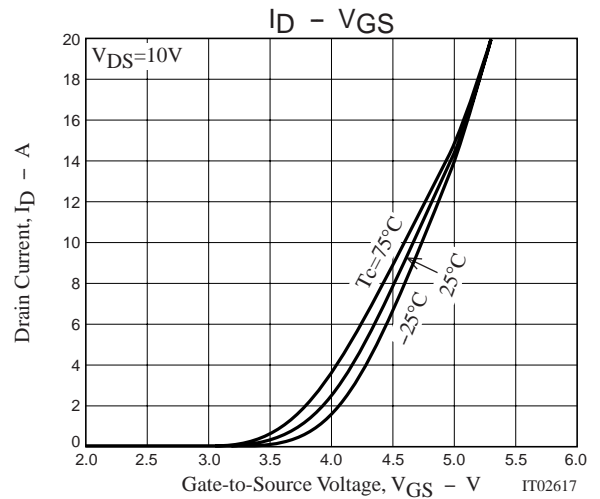
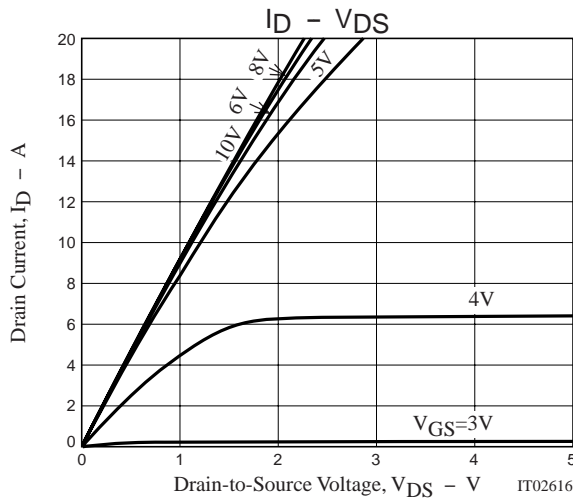
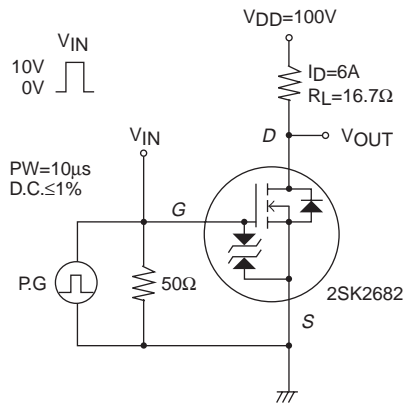
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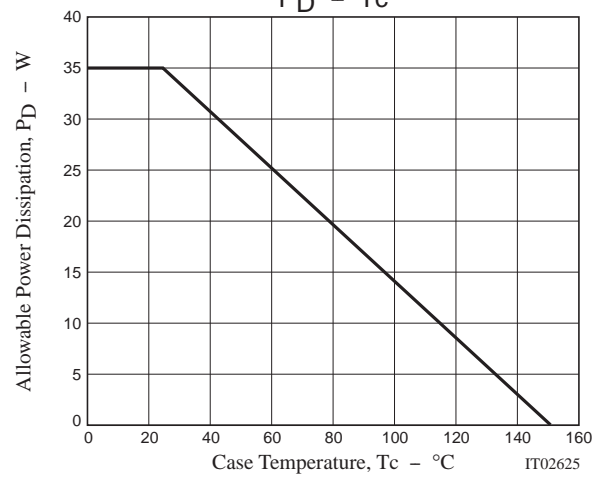
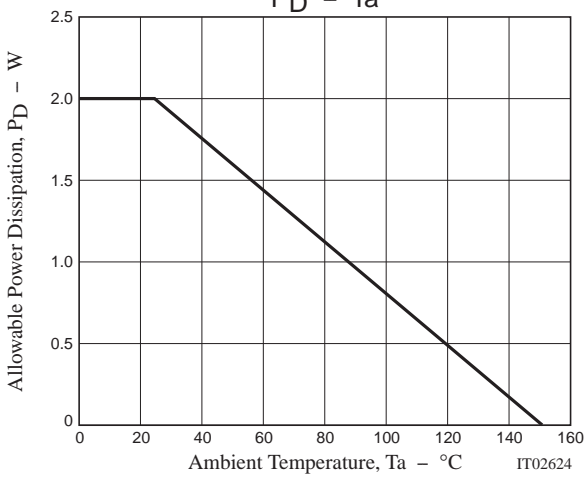
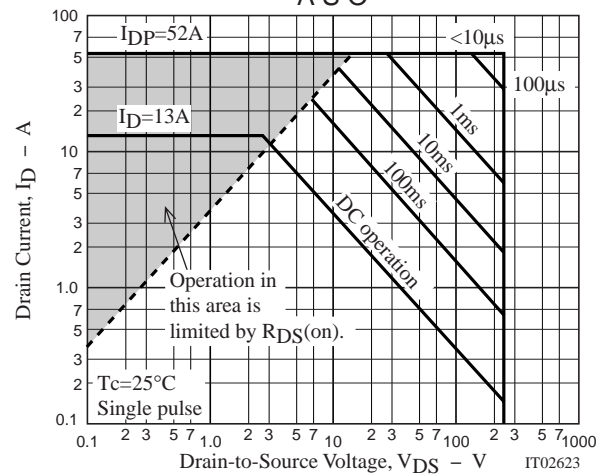
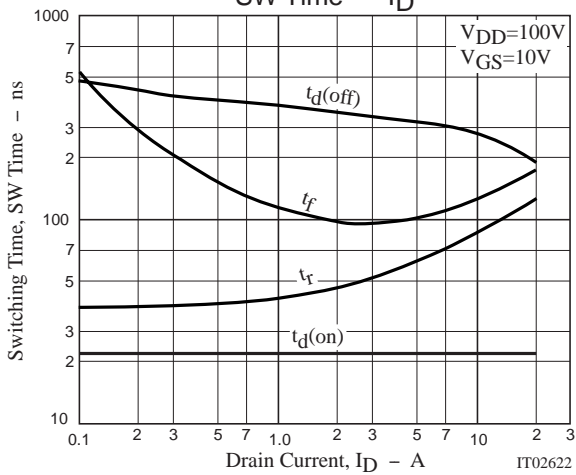
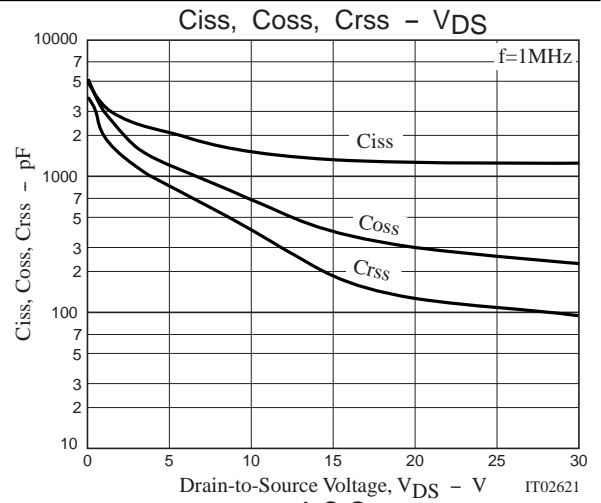
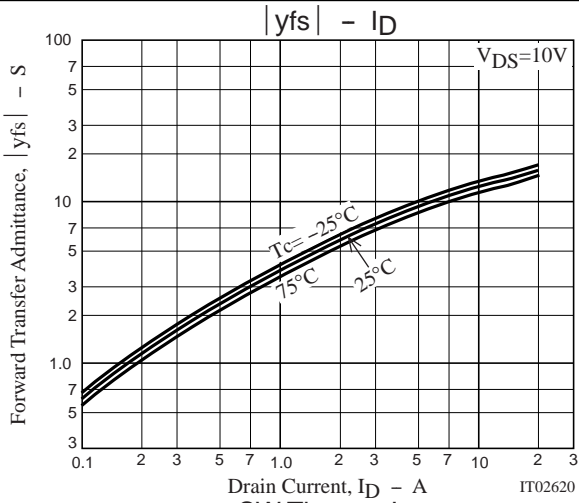
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	C_{iss}	$V_{DS}=20V, f=1MHz$		1290		pF
Output Capacitance	C_{oss}	$V_{DS}=20V, f=1MHz$		300		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=20V, f=1MHz$		125		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit		22		ns
Rise Time	t_r	See specified Test Circuit		66		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit		320		ns
Fall Time	t_f	See specified Test Circuit		105		ns
Diode Forward Voltage	V_{SD}	$I_S=12A, V_{GS}=0$		1.0	1.5	V
Diode Reverse Recovery Time	t_{rr}	$I_S=12A, di/dt=100A/\mu s$		160		ns

Marking : K2682

Switching Time Test Circuit



2SK2682



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