



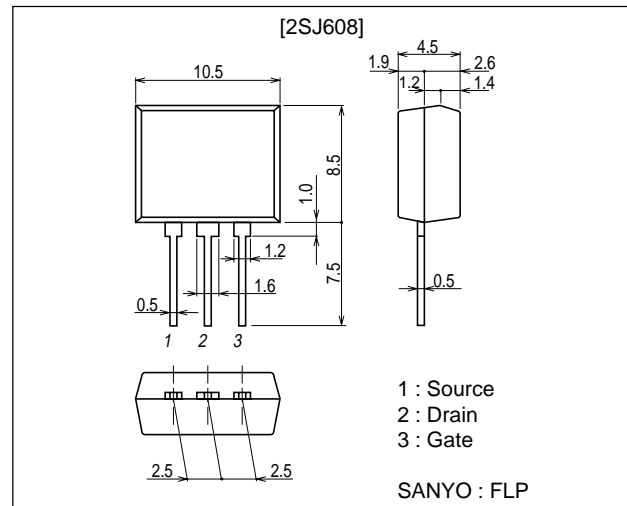
Ultrahigh Speed Switching Applications

Features

- Low ON-resistance.
- Ultrahigh speed switching.
- Low-voltage drive.
- Mounting height 9.5mm.
- Meets radial taping.

Package Dimensions

unit : mm
2085A



Specifications

Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		-30	V
Gate-to-Source Voltage	V_{GSS}		± 20	V
Drain Current (DC)	I_D		-4	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	-16	A
Allowable Power Dissipation	P_D		1.4	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	$V_{(BR)DSS}$	$I_D = -1\text{mA}$, $V_{GS} = 0$	-30			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -30\text{V}$, $V_{GS} = 0$			-1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS} = \pm 16\text{V}$, $V_{DS} = 0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = -10\text{V}$, $I_D = -1\text{mA}$	-1.0		-2.4	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = -10\text{V}$, $I_D = -2\text{A}$	2.9	4.2		S

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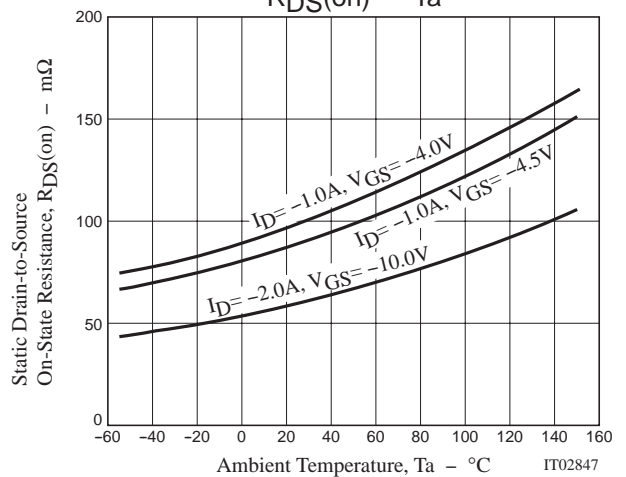
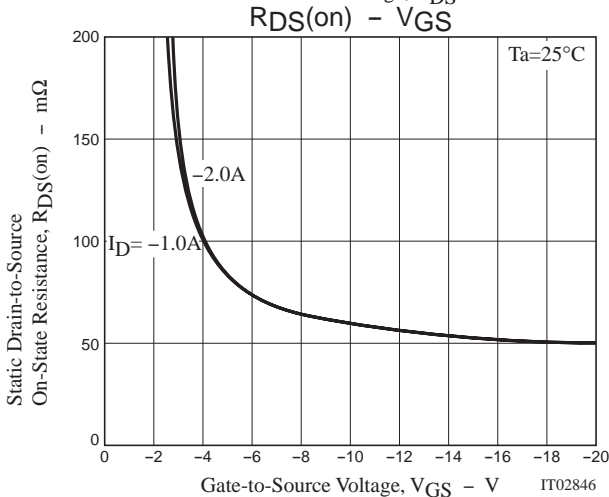
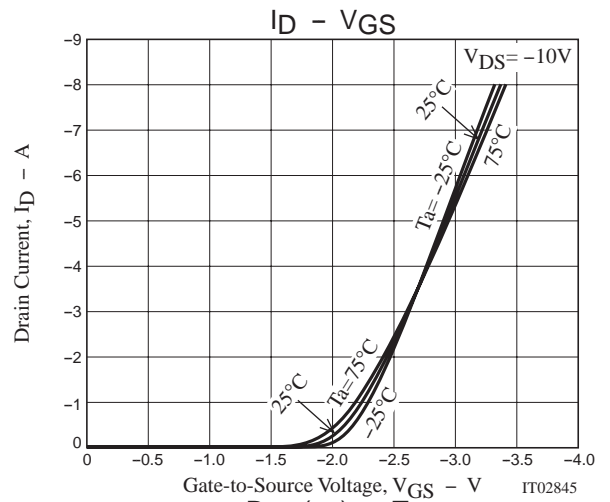
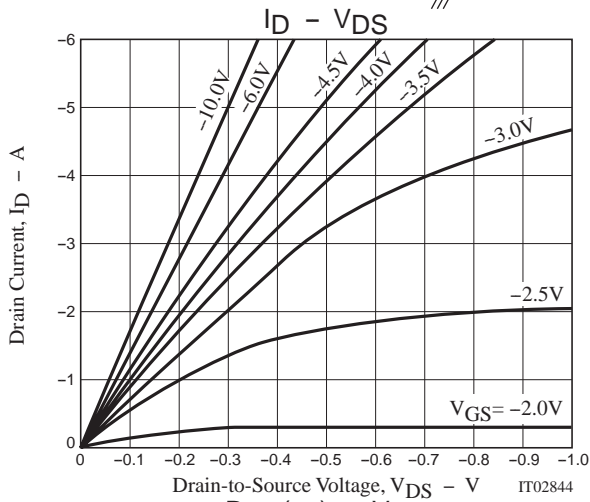
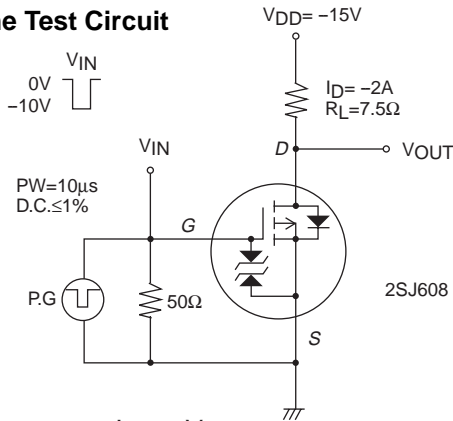
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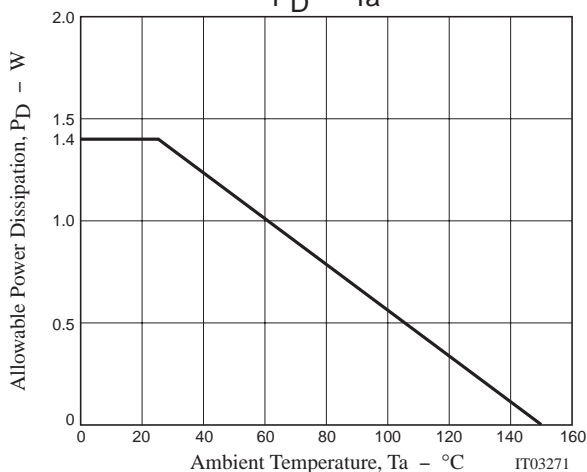
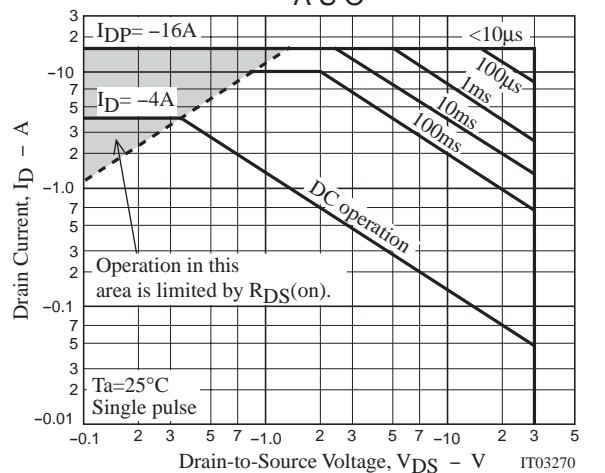
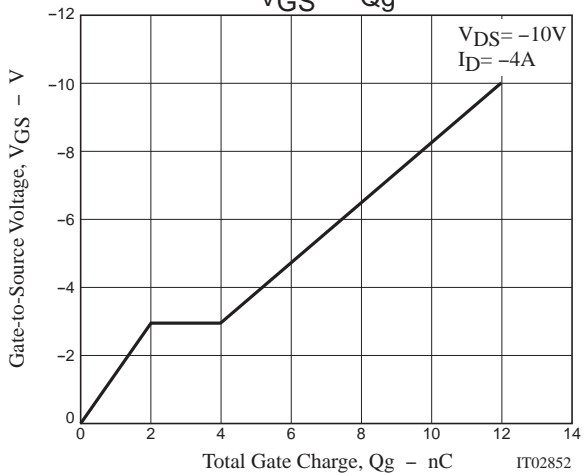
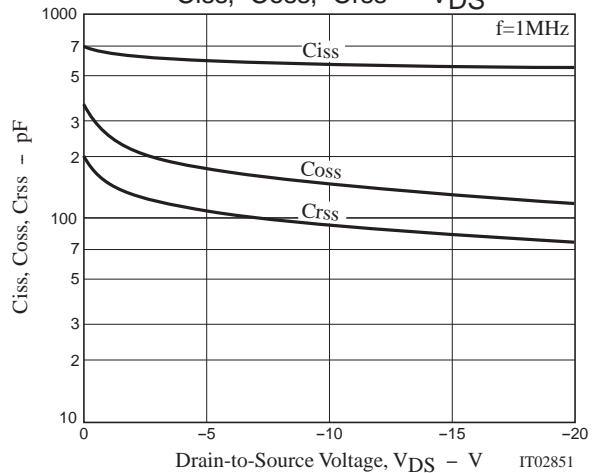
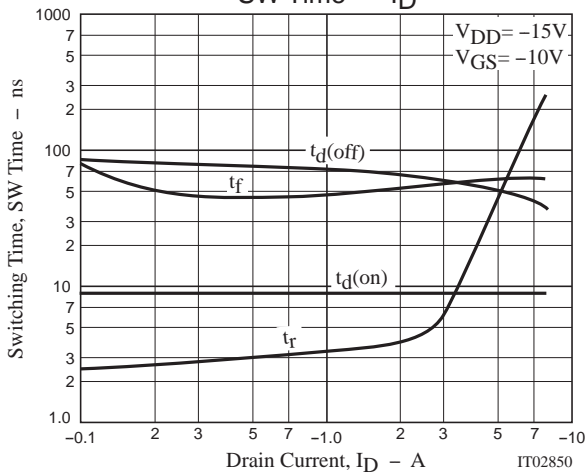
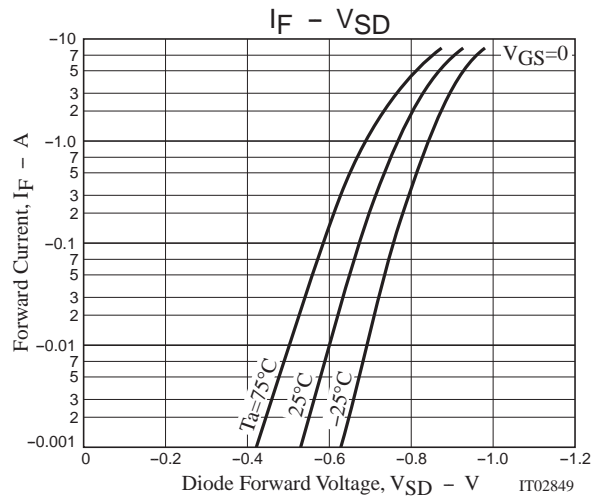
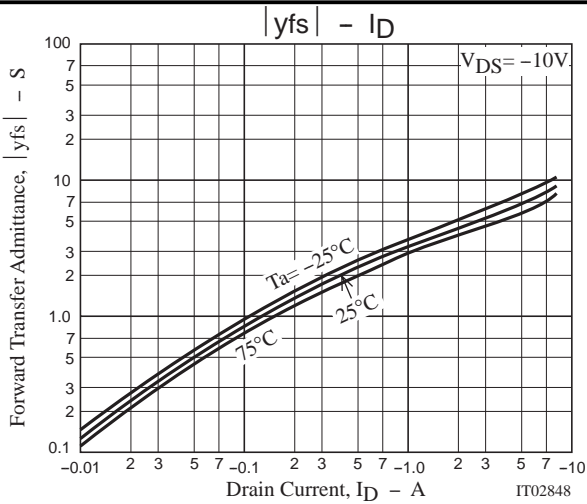
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Static Drain-to-Source On-State Resistance	R _{DS(on) 1}	I _D =-2A, V _{GS} =-10V		60	78	mΩ
	R _{DS(on) 2}	I _D =-1A, V _{GS} =-4.5V		90	126	mΩ
	R _{DS(on) 3}	I _D =-1A, V _{GS} =-4V		100	140	mΩ
Input Capacitance	C _{iss}	V _{DS} =-10V, f=1MHz		560		pF
Output Capacitance	C _{oss}	V _{DS} =-10V, f=1MHz		150		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =-10V, f=1MHz		95		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit		9		ns
Rise Time	t _r	See specified Test Circuit		4		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit		70		ns
Fall Time	t _f	See specified Test Circuit		55		ns
Total Gate Charge	Q _g	V _{DS} =-10V, V _{GS} =-10V, I _D =-4A		12		nC
Gate-to-Source Charge	Q _{gs}	V _{DS} =-10V, V _{GS} =-10V, I _D =-4A		2		nC
Gate-to-Drain "Miller" Charge	Q _{gd}	V _{DS} =-10V, V _{GS} =-10V, I _D =-4A		2		nC
Diode Forward Voltage	V _{SD}	I _S =-4A, V _{GS} =0		-0.88	-1.5	V

Switching Time Test Circuit



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