

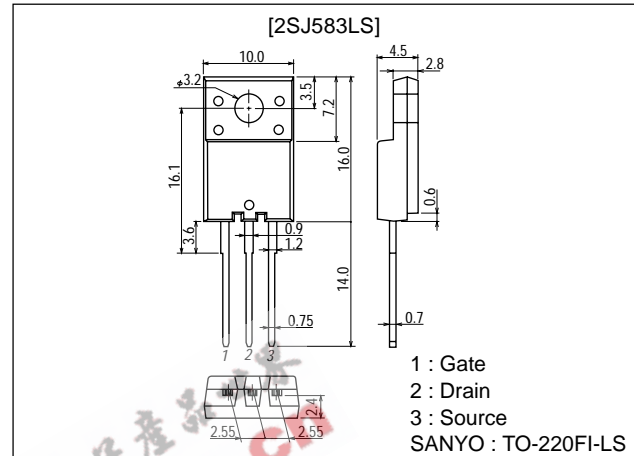
**2SJ583LS****Ultrahigh-Speed Switching Applications****Features**

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

**Package Dimensions**

unit:mm

2078B

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

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DS}$		-250	V
Gate-to-Source Voltage	$V_{GS}$		$\pm 30$	V
Drain Current (DC)	$I_D$		-3.5	A
Drain Current (Pulse)	$I_{DP}$	$PW \leq 10\mu\text{s}$ , duty cycle $\leq 1\%$	-14	A
Allowable Power Dissipation	$P_D$		2.0	W
		$T_c = 25^\circ\text{C}$	20	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	$V_{(BR)DSS}$	$I_D = -1\text{mA}$ , $V_{GS} = 0$	-250			V
Gate-to-Source Breakdown Voltage	$V_{(BR)GSS}$	$I_G = \pm 100\mu\text{A}$ , $V_{DS} = 0$	$\pm 30$			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = -250\text{V}$ , $V_{GS} = 0$			-100	$\mu\text{A}$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 25\text{V}$ , $V_{DS} = 0$			$\pm 10$	$\mu\text{A}$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = -10\text{V}$ , $I_D = -1\text{mA}$	-3.5		-5.0	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = -10\text{V}$ , $I_D = -2\text{A}$	1.2	2.0		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	$I_D = -2\text{A}$ , $V_{GS} = -10\text{V}$		1.2	1.5	$\Omega$

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**SANYO Electric Co., Ltd. Semiconductor Company**

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

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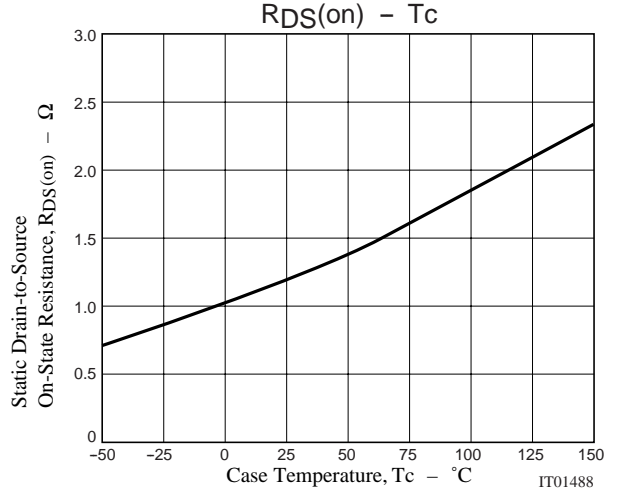
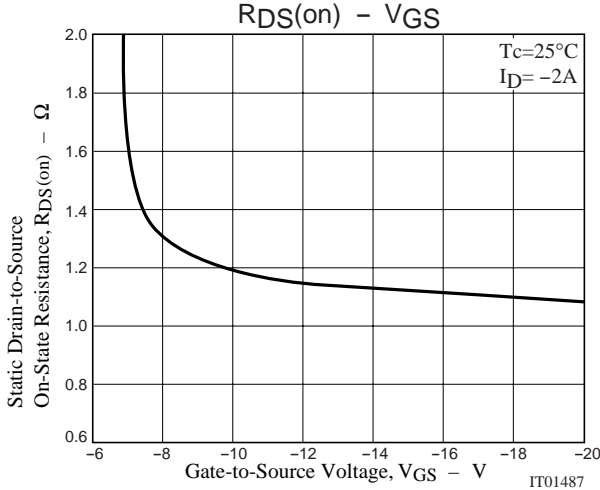
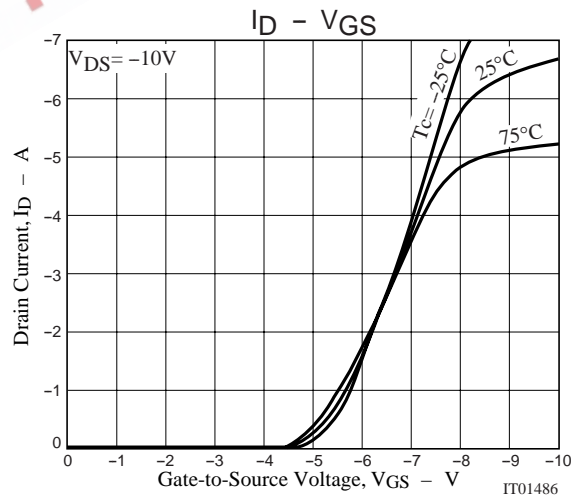
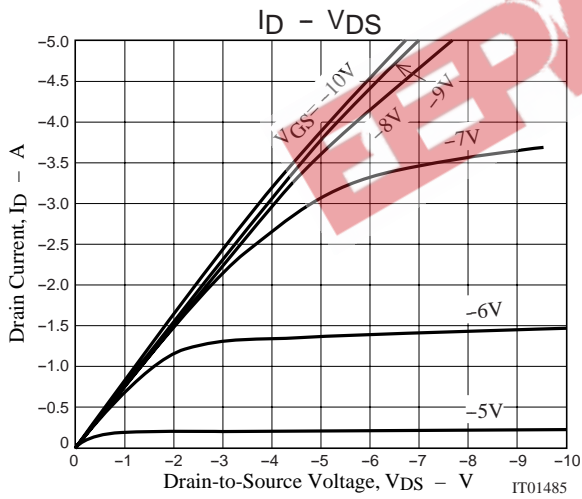
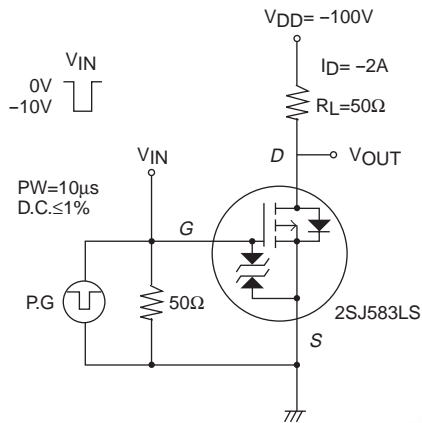
# 2SJ583LS

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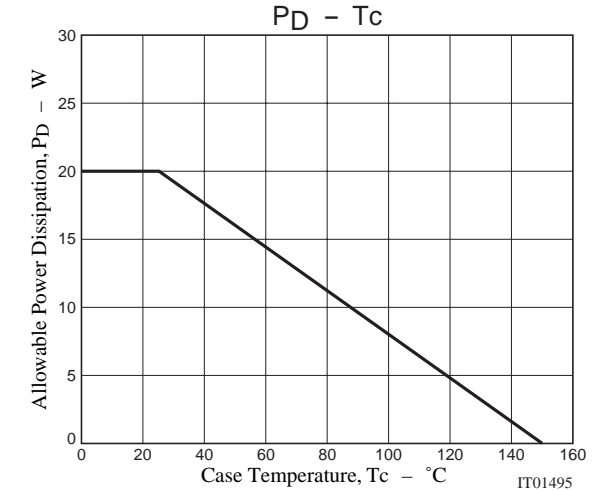
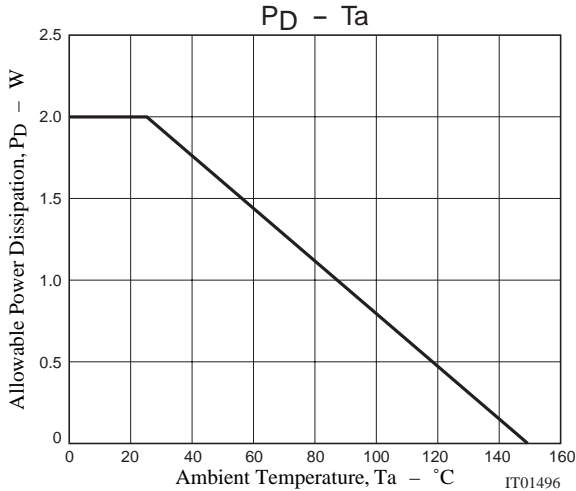
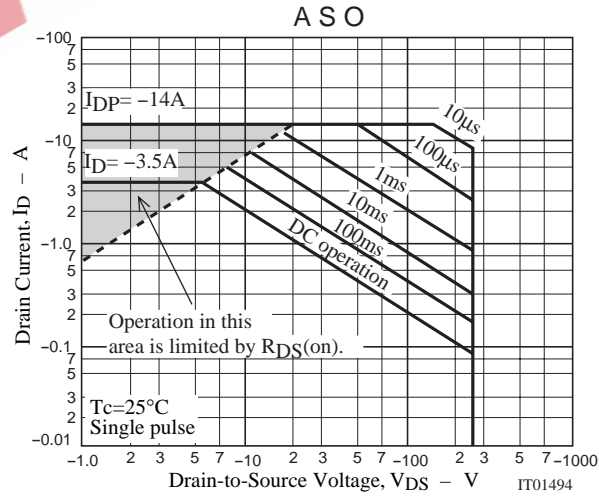
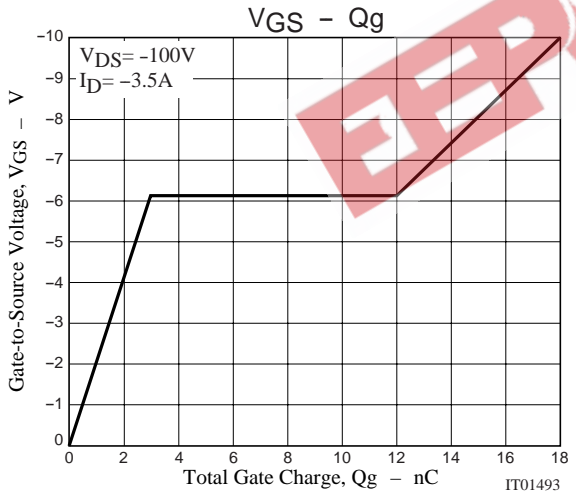
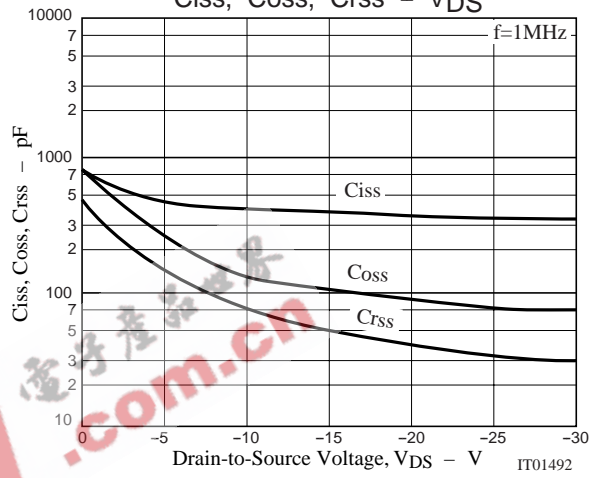
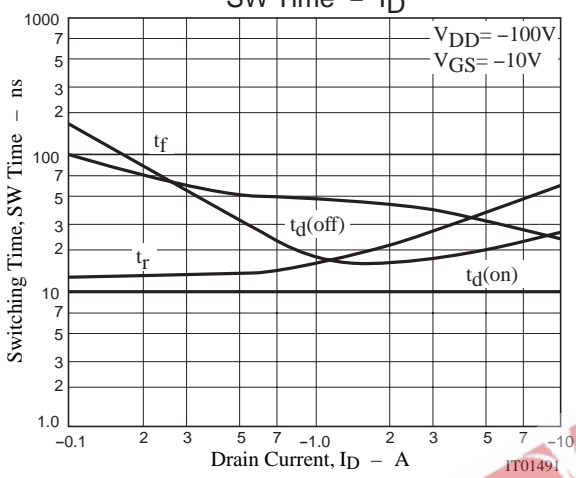
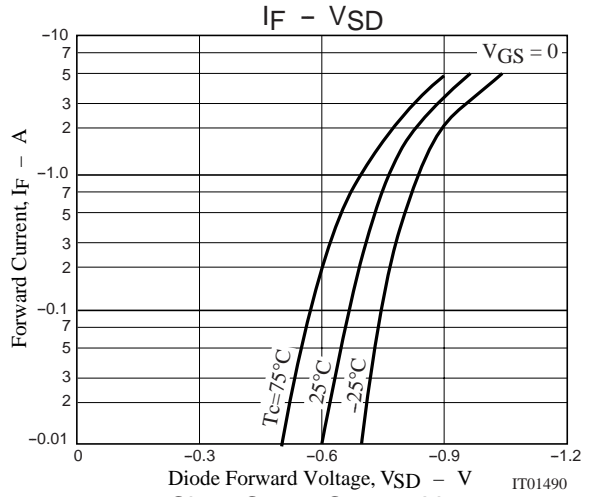
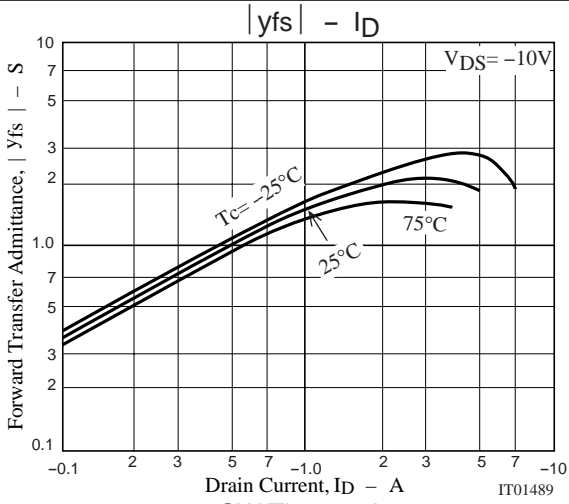
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	$V_{DS}=-20V, f=1MHz$		360		pF
Output Capacitance	Coss	$V_{DS}=-20V, f=1MHz$		95		pF
Reverse Transfer Capacitance	Crss	$V_{DS}=-20V, f=1MHz$		40		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		10		ns
Rise Time	$t_r$	See specified Test Circuit		21		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		45		ns
Fall Time	$t_f$	See specified Test Circuit		16.5		ns
Total Gate Charge	Qg	$V_{DS}=-100V, V_{GS}=-10V, I_D=-3.5A$		18		nC
Gate-to-Source Charge	Qgs	$V_{DS}=-100V, V_{GS}=-10V, I_D=-3.5A$		3		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=-100V, V_{GS}=-10V, I_D=-3.5A$		9		nC
Diode Forward Voltage	$V_{SD}$	$I_S=-3.5A, V_{GS}=0$		-0.9	-1.5	V

Marking : J583

## Switching Time Test Circuit



# 2SJ583LS



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