

Ordering number : ENN7532

P-Channel Silicon MOSFET

**SCH1302**

## Ultrahigh-Speed Switching Applications

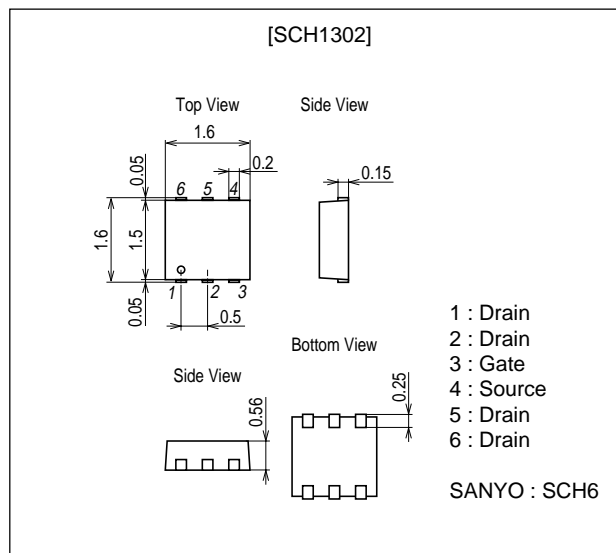
### Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 1.8V drive.

### Package Dimensions

unit : mm

2221



### Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		-20	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±10	V
Drain Current (DC)	I <sub>D</sub>		-2	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	-8	A
Allowable Power Dissipation	P <sub>D</sub>	Mounted on a ceramic board (900mm²×0.8mm)	0.8	W
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-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 <sub>D</sub> =-1mA, V <sub>GS</sub> =0	-20			V
Zero-Gate Voltage Drain Current	I <sub>DSS1</sub>	V <sub>DS</sub> =-20V, V <sub>GS</sub> =0			-10	μA
	I <sub>DSS2</sub>	V <sub>DS</sub> =-4V, V <sub>GS</sub> =0			-1	μA
Gate-to-Source Leakage Current	I <sub>GSS1</sub>	V <sub>GS</sub> =±8V, V <sub>DS</sub> =0			±10	μA
	I <sub>GSS2</sub>	V <sub>GS</sub> =±4V, V <sub>DS</sub> =0			±1	μA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =-10V, I <sub>D</sub> =-1mA	-0.3		-1.0	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =-10V, I <sub>D</sub> =-1A	1.8	3.0		S

Marking : JB

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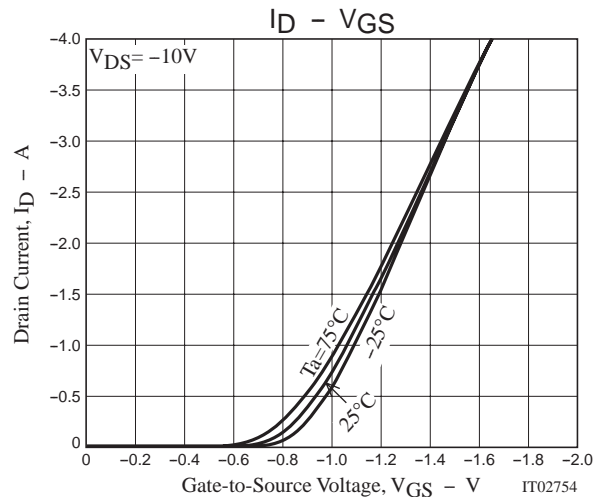
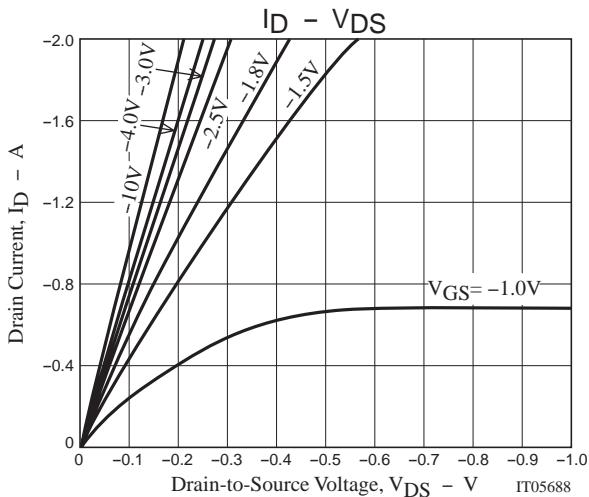
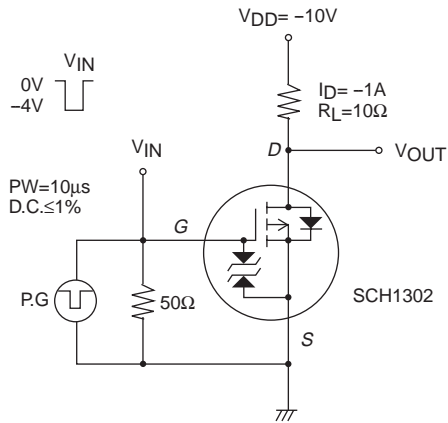
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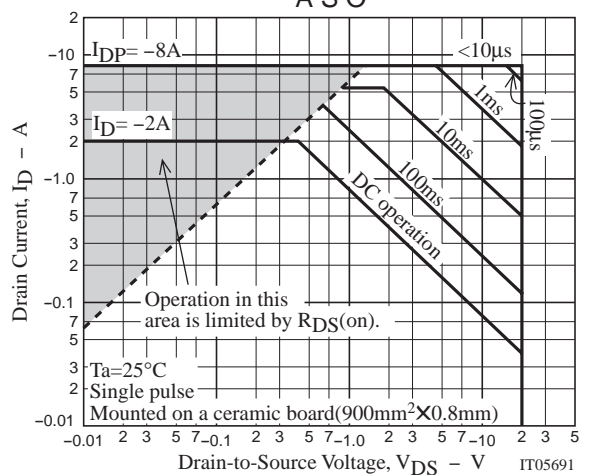
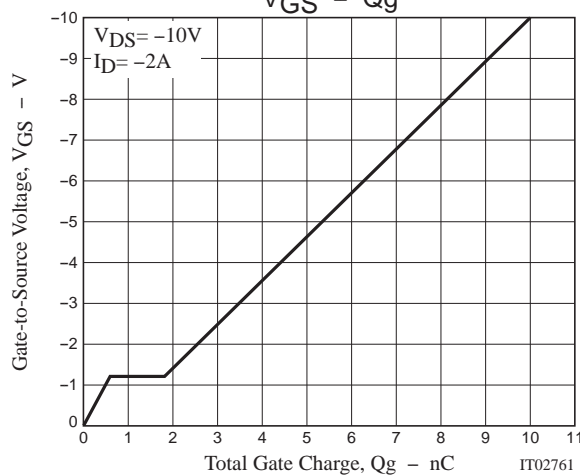
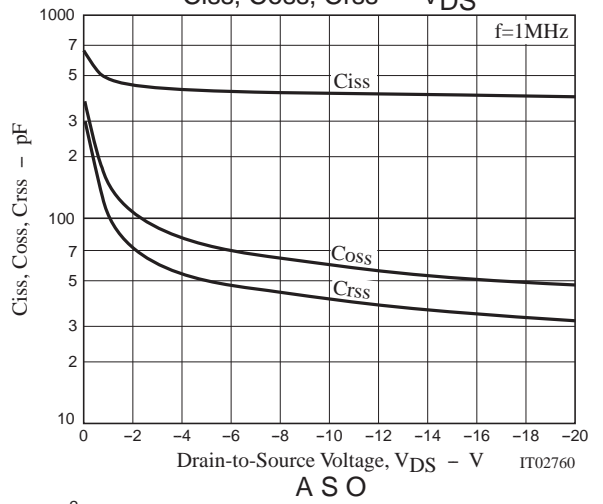
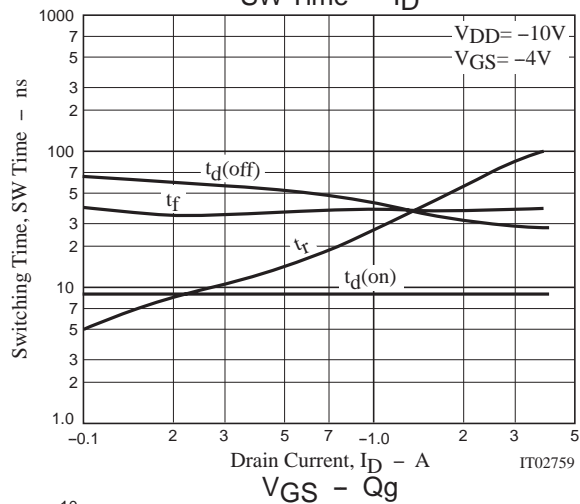
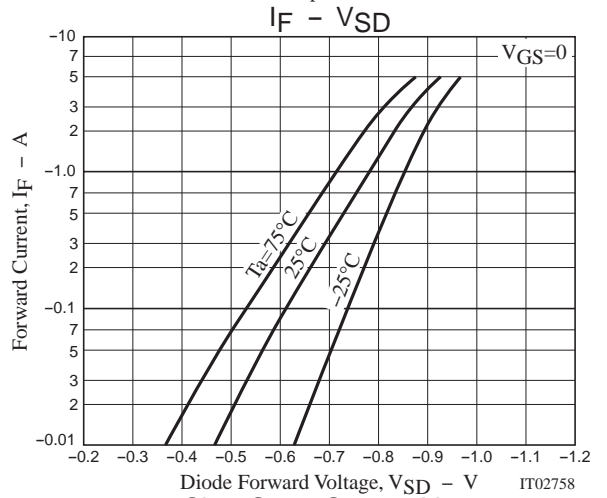
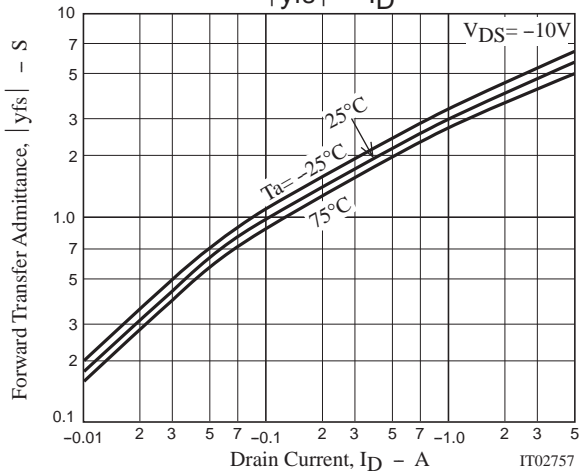
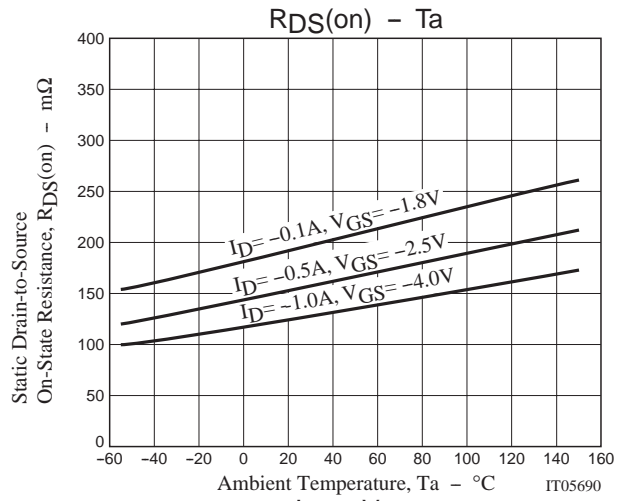
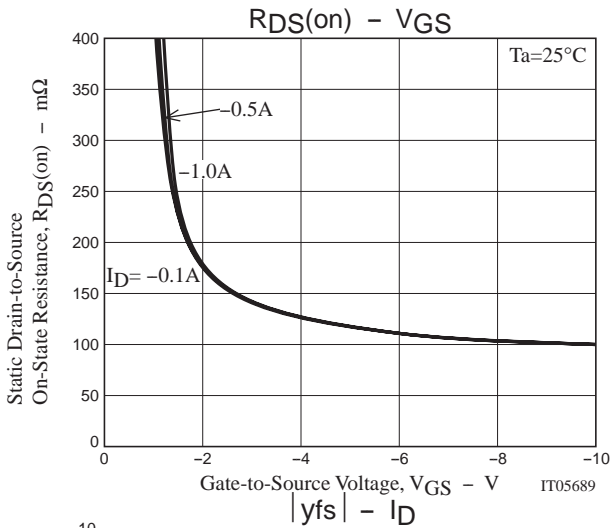
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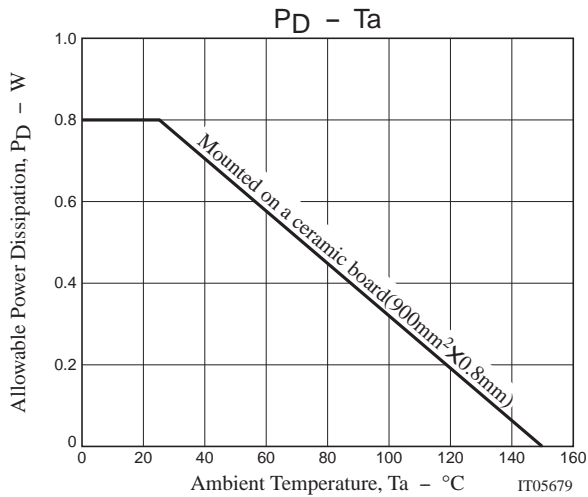
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D = -1A, V_{GS} = -4V$		125	165	m $\Omega$
	$R_{DS(on)2}$	$I_D = -0.5A, V_{GS} = -2.5V$		155	220	m $\Omega$
	$R_{DS(on)3}$	$I_D = -0.1A, V_{GS} = -1.8V$		195	280	m $\Omega$
Input Capacitance	$C_{iss}$	$V_{DS} = -10V, f = 1MHz$		410		pF
Output Capacitance	$C_{oss}$	$V_{DS} = -10V, f = 1MHz$		60		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS} = -10V, f = 1MHz$		40		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		9		ns
Rise Time	$t_r$	See specified Test Circuit.		27		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		42		ns
Fall Time	$t_f$	See specified Test Circuit.		38		ns
Total Gate Charge	$Q_g$	$V_{DS} = -10V, V_{GS} = -10V, I_D = -2A$		10		nC
Gate-to-Source Charge	$Q_{gs}$	$V_{DS} = -10V, V_{GS} = -10V, I_D = -2A$		0.6		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$	$V_{DS} = -10V, V_{GS} = -10V, I_D = -2A$		1.2		nC
Diode Forward Voltage	$V_{SD}$	$I_S = -2A, V_{GS} = 0$		-0.88	-1.2	V

## Switching Time Test Circuit



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