

MOS FIELD EFFECT TRANSISTOR

2SJ353

P-CHANNEL MOS FET FOR HIGH-SPEED SWITCHING

The 2SJ353 is a P-channel MOS FET of a vertical type and is a switching element that can be directly driven by the output of an IC operating at 5 V.

This product has a low ON resistance and superb switching characteristics and is ideal for driving the actuators and DC/DC converters.

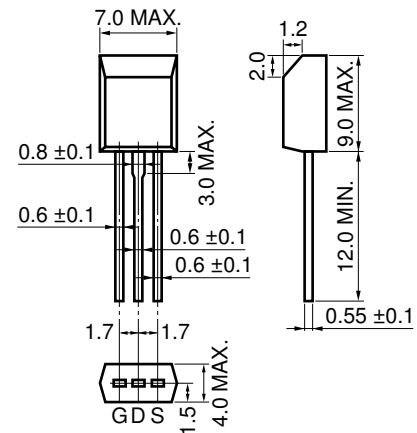
FEATURES

- Radial taping supported
- Can be directly driven by output of 5-V IC
- Low ON resistance

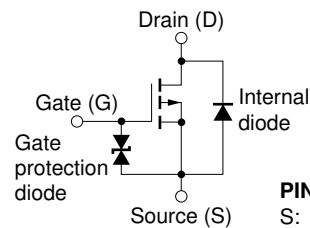
$R_{DS(on)} = 0.68 \, \Omega \text{ MAX. @ } V_{GS} = -4 \text{ V, } I_D = -0.8 \text{ A}$

$R_{DS(on)} = 0.37 \, \Omega \text{ MAX. @ } V_{GS} = -10 \text{ V, } I_D = -1.0 \text{ A}$

PACKAGE DIMENSIONS (in mm)



EQUIVALENT CIRCUIT



PIN CONNECTIONS

S: Source
D: Drain
G: Gate

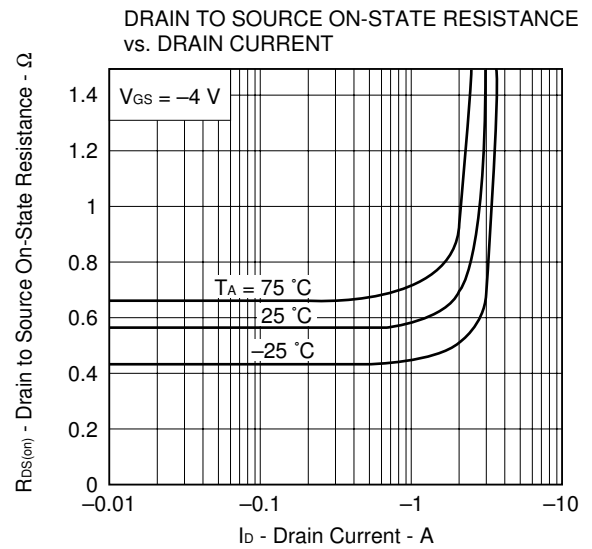
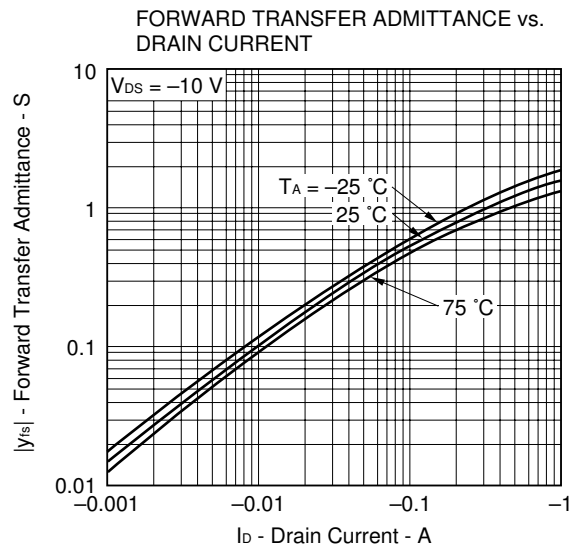
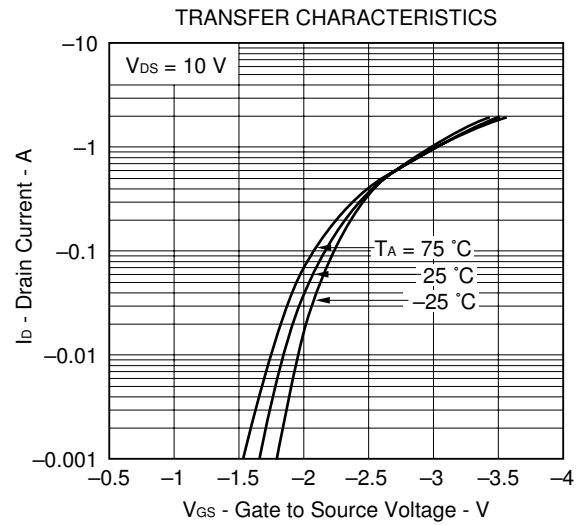
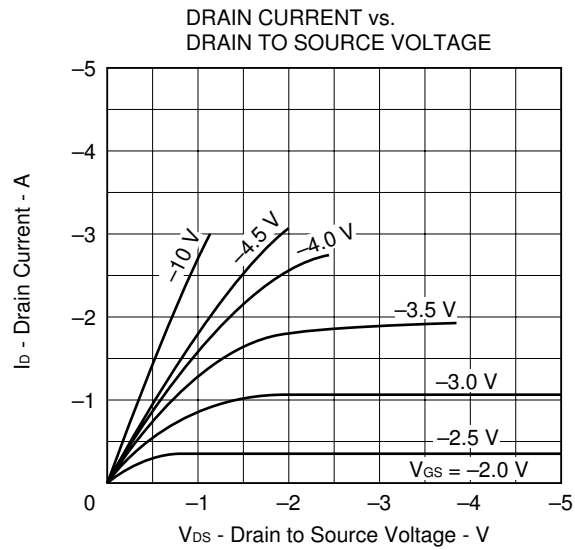
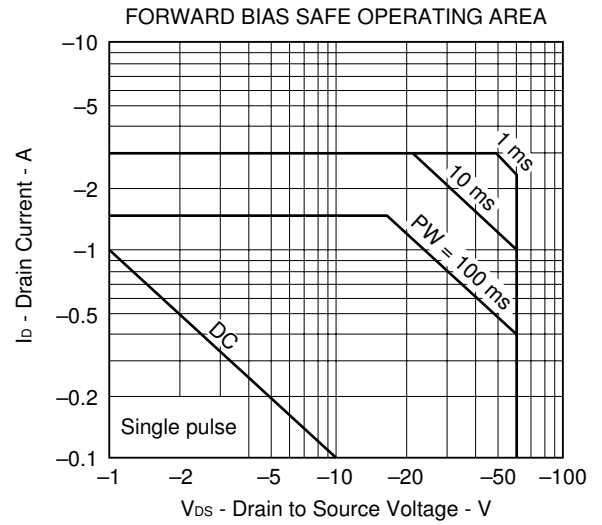
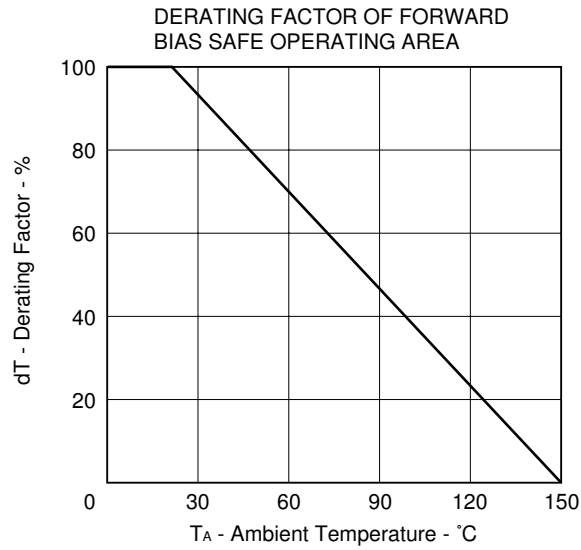
ABSOLUTE MAXIMUM RATINGS ($T_A = 25 \, ^\circ\text{C}$)

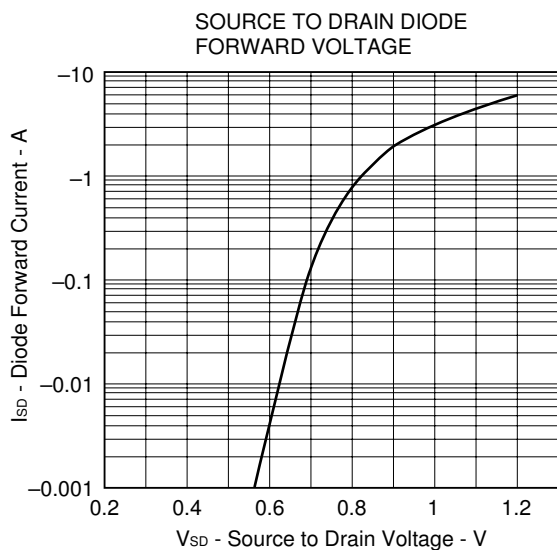
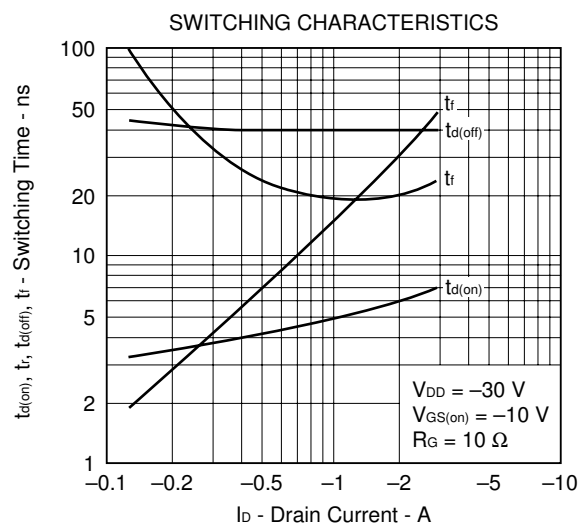
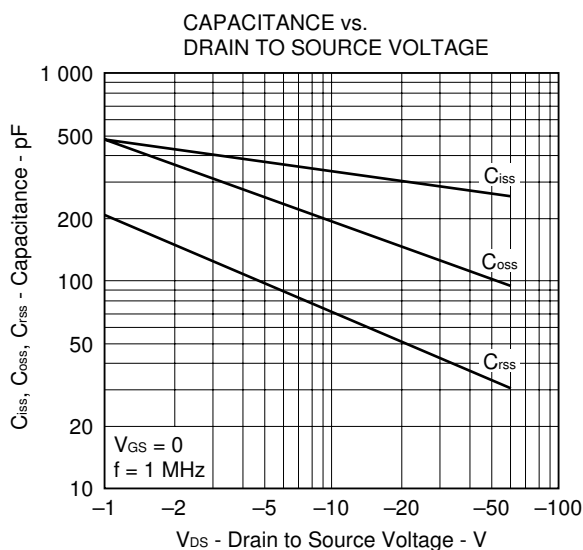
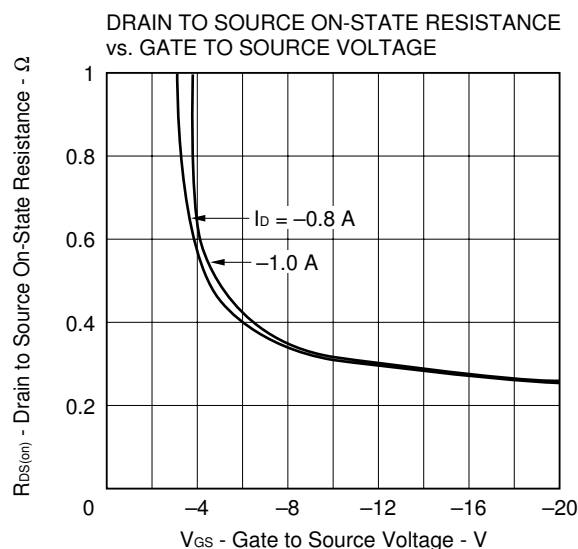
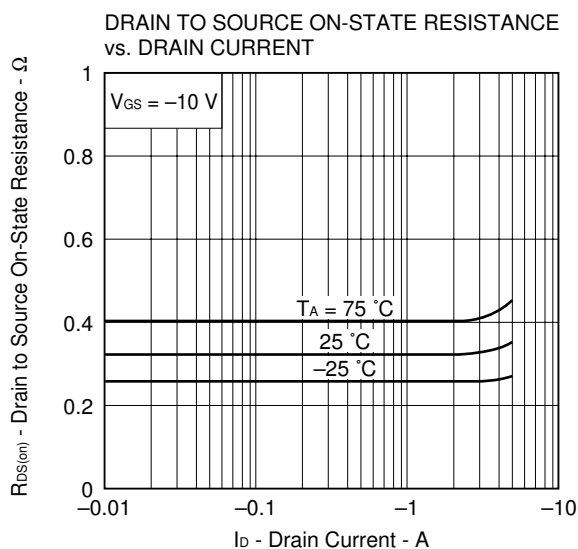
PARAMETER	SYMBOL	TEST CONDITIONS	RATING	UNIT
Drain to Source Voltage	V_{DSS}	$V_{GS} = 0$	-60	V
Gate to Source Voltage	V_{GSS}	$V_{DS} = 0$	$\pm 20 / +10$	V
Drain Current (DC)	$I_{D(DC)}$		± 1.5	A
Drain Current (Pulse)	$I_{D(pulse)}$	$PW \leq 10 \text{ ms,}$ $\text{Duty cycle} \leq 1 \%$	± 3.0	A
Total Power Dissipation	P_T		1.0	W
Channel Temperature	T_{ch}		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS (T_A = 25 °C)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Drain Cut-Off Current	I _{DSS}	V _{DS} = -60 V, V _{GS} = 0			-10	μA
Gate Leakage Current	I _{GSS}	V _{GS} = -16/+10 V, V _{DS} = 0			±10	μA
Gate Cut-Off Voltage	V _{GS(off)}	V _{DS} = -10 V, I _D = -1 mA	-1.0	-1.6	-2.0	V
Forward Transfer Admittance	y _{fs}	V _{DS} = -10 V, I _D = -1.0 A	1.0			S
Drain to Source On-State Resistance	R _{DS(on)1}	V _{GS} = -4 V, I _D = -0.8 A		0.58	0.68	Ω
Drain to Source On-State Resistance	R _{DS(on)2}	V _{GS} = -10 V, I _D = -1.0 A		0.33	0.37	Ω
Input Capacitance	C _{iss}	V _{DS} = -10 V, V _{GS} = 0, f = 1.0 MHz		320		pF
Output Capacitance	C _{oss}			200		pF
Reverse Transfer Capacitance	C _{rss}			70		pF
Turn-On Delay Time	t _{d(on)}	V _{DD} = -30 V, I _D = -1.0 A V _{GS(on)} = -10 V, R _G = 10 Ω, R _L = 30 Ω		5		ns
Rise Time	t _r			15		ns
Turn-Off Delay Time	t _{d(off)}			40		ns
Fall Time	t _f			20		ns

TYPICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)





REFERENCE

Document Name	Document No.
NEC semiconductor device reliability/quality control system	TEI-1202
Quality grade on NEC semiconductor devices	IEI-1209
Semiconductor device mounting technology manual	C10535E
Guide to quality assurance for semiconductor devices	MEI-1202
Semiconductor selection guide	X10679E

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The quality grade of NEC devices in “Standard” unless otherwise specified in NEC's Data Sheets or Data Books. If customers intend to use NEC devices for applications other than those specified for Standard quality grade, they should contact NEC Sales Representative in advance.

Anti-radioactive design is not implemented in this product.