

INJ0302BC1

High Speed Switching
Silicon P-channel MOSFET

DESCRIPTION

INJ0302BC1 is a Silicon P-channel MOSFET.

This product is most suitable for use such as portable machinery,

because of low voltage drive and low on resistance.

FEATURE

- Input impedance is high, and not necessary to consider a drive electric current.

- High drain current $I_D = -3.1A$

- Drive voltage $-2.5V$

- Low on Resistance.

$$R_{DS(ON)} = 59m\Omega \text{ typ (@} V_{GS} = -4.5V \text{)}$$

$$R_{DS(ON)} = 71m\Omega \text{ typ (@} V_{GS} = -2.5V \text{)}$$

- High speed switching.

APPLICATION

High speed switching, Analog switching

MAXIMUM RATINGS (Ta=25°C)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V _{DSS}	-30	V
Gate-Source Voltage	V _{GSS}	±10	V
Drain Current(DC)	I _D	-3.1	A
Drain Current(Pulse) (※1)	I _{DP}	-7	A
Total Power Dissipation (※2)	P _D	0.9	W
Channel Temperature	T _{ch}	+150	°C
Storage Temperature	T _{stg}	-55~+150	°C

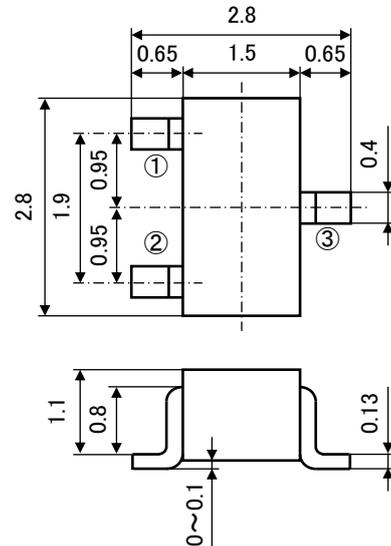
※1 Pw ≤ 10ms, Duty cycle ≤ 1%

※2 package mounted on glass-epoxy substrate.

(39mm × 39mm × 1.6mm, Cu pad 1500mm²)

OUTLINE DRAWING

Unit: mm



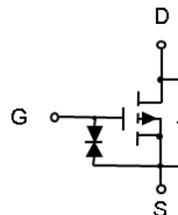
TERMINAL CONNECTOR

- ①: GATE
- ②: SOURCE
- ③: DRAIN

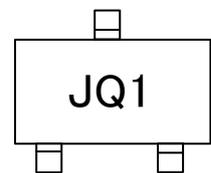
JEITA: SC-59

JEDEC: Similar to TO-236

EQUIVALENT CIRCUIT



MARKING



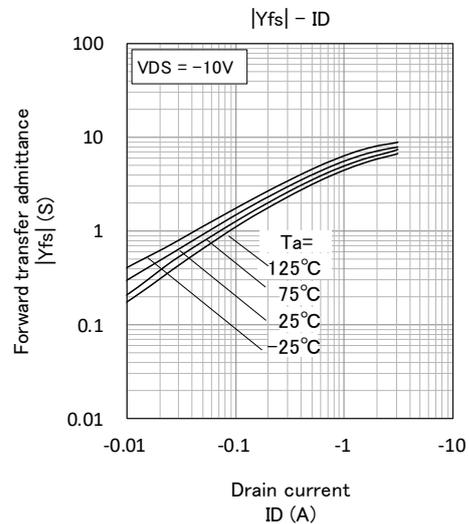
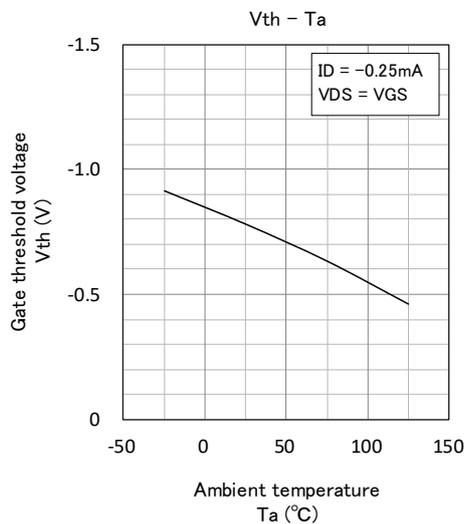
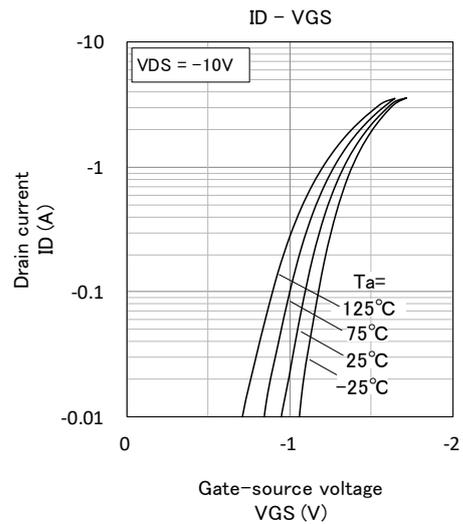
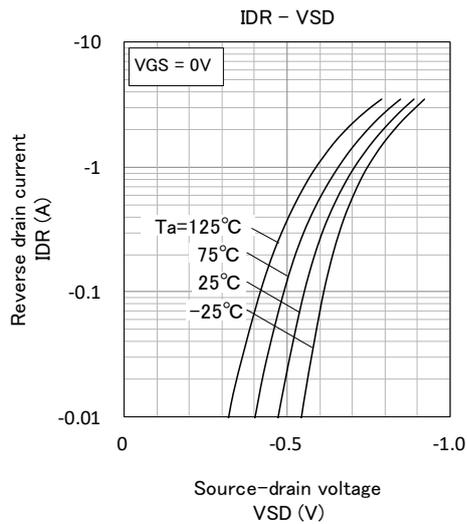
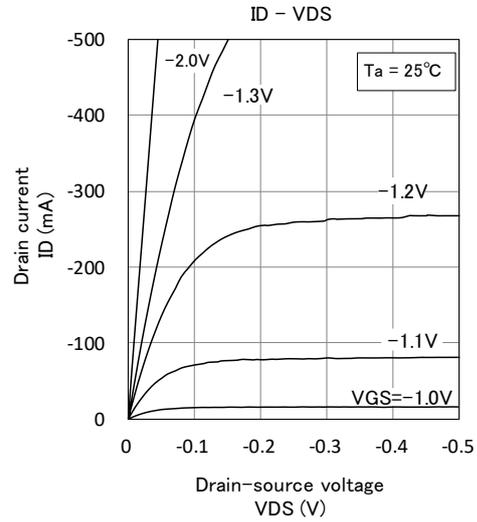
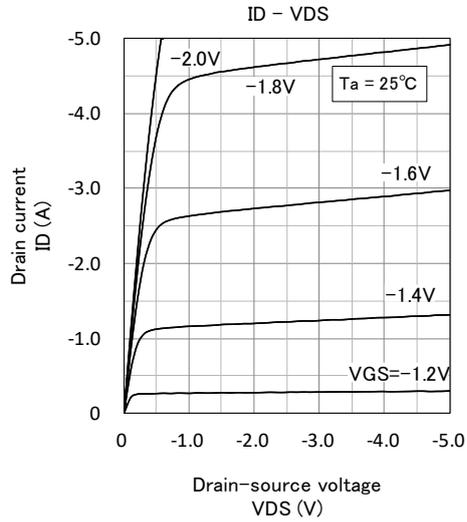
ELECTRICAL CHARACTERISTICS (Ta=25°C)

Parameter	Symbol	Test Condition	Limit			Unit
			MIN	TYP	MAX	
Drain-Source Breakdown Voltage	V _{(BR)DSS}	I _D = -250μA, V _{GS} = 0V	-30	-	-	V
Gate-Source Leak Current	I _{GSS}	V _{GS} = ±10V, V _{DS} = 0V	-	-	±10	μA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -30V, V _{GS} = 0V	-	-	-1.0	μA
Gate Threshold Voltage	V _{th}	I _D = -250μA, V _{DS} = V _{GS}	-0.5	-	-1.2	V
Static Drain-Source On-State Resistance	R _{DS(ON)}	I _D = -3.1A, V _{GS} = -4.5V	-	59	64	mΩ
		I _D = -1.5A, V _{GS} = -2.5V	-	71	86	
Input Capacitance	C _{iss}	V _{DS} = -10V, V _{GS} = 0V, f = 1MHz	-	1440	-	pF
Output Capacitance	C _{oss}		-	93	-	
Feedback Capacitance	C _{rss}		-	65	-	
Switching Time	t _{on}	V _{DD} = -20V, I _D = -200mA, V _{GS} = -5V	-	29	-	ns
	t _{off}		-	265	-	

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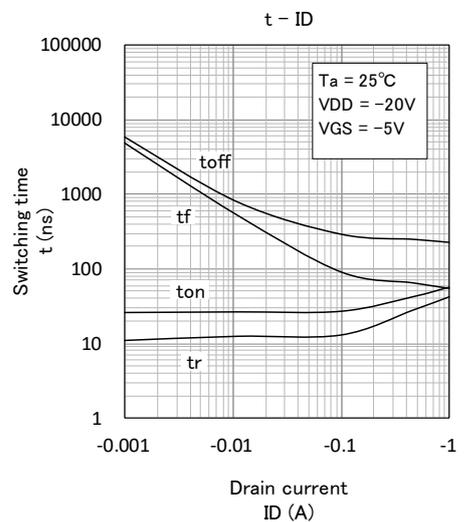
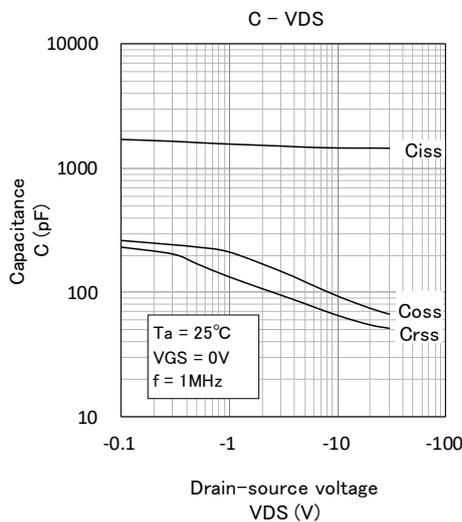
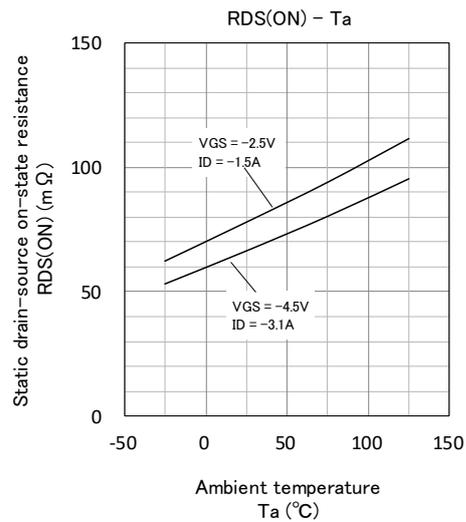
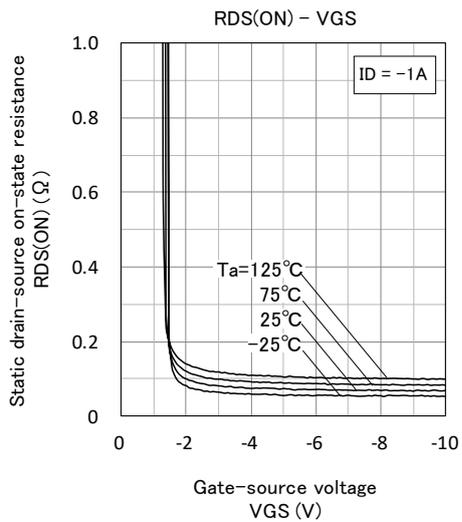
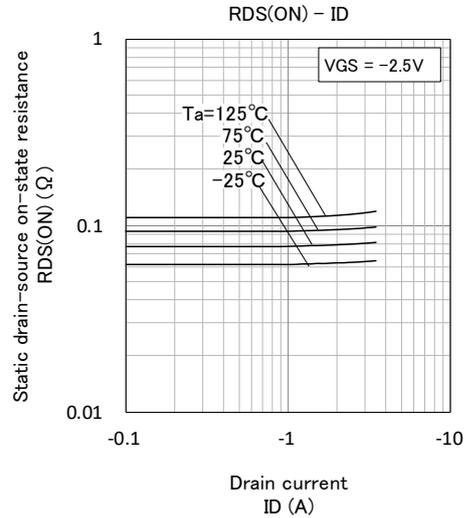
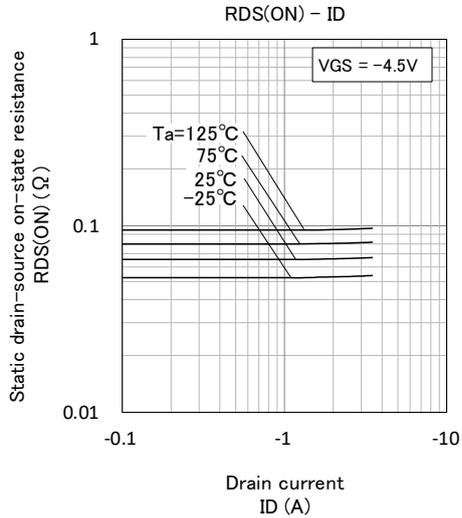
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TYPICAL CHARACTERISTICS



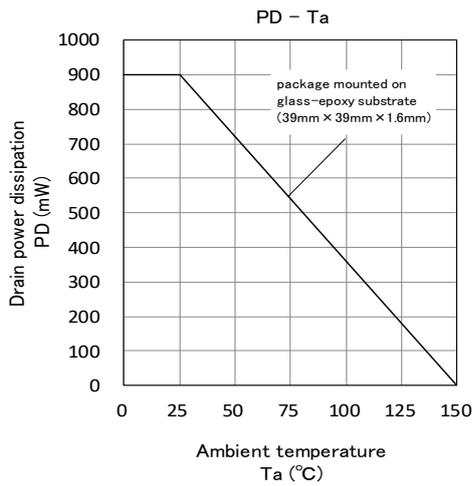
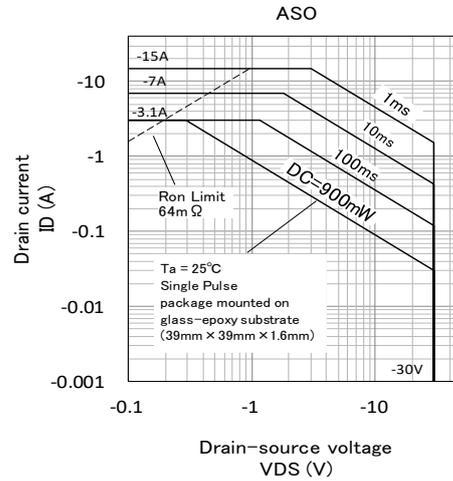
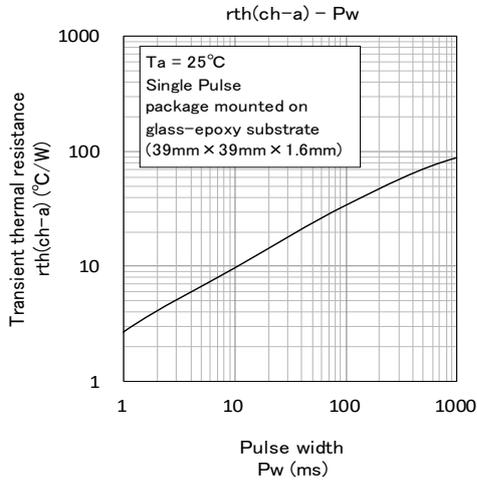
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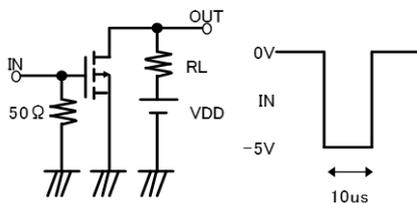


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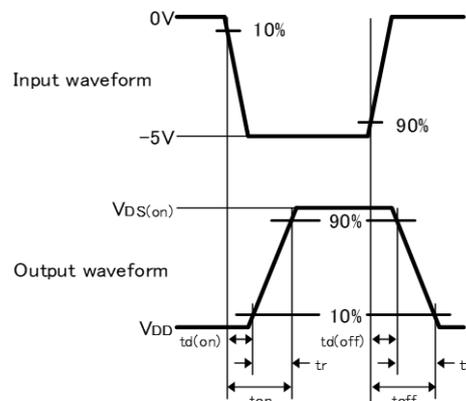
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Switching time test condition



Duty $\leq 1\%$
Input: $t_r, t_f < 10ns$
VDD = -20V
Common source
 $T_a = 25^{\circ}C$



Keep safety first in your circuit designs!

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