

# INJ0310AP2

High Speed Switching  
Silicon P-channel MOSFET

## DESCRIPTION

INJ0310AP2 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  $I_D = -3.0A$

• Drive voltage  $-4.0V$

• Low on Resistance.

$R_{DS(ON)} = 120m\Omega$  (TYP) (@ $V_{GS} = -10V$ )

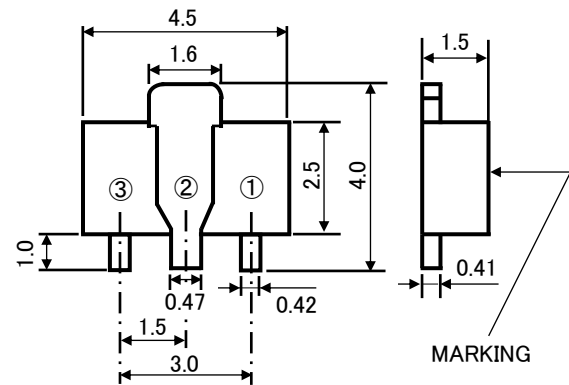
$R_{DS(ON)} = 145m\Omega$  (TYP) (@ $V_{GS} = -4.5V$ )

## APPLICATION

High-speed switching, analog switching, etc.

## OUTLINE DRAWING

UNIT: mm



TERMINAL CONNECTOR

JEITA: SC-62

①: GATE

JEDEC: SOT-89

②: DRAIN

③: SOURCE

## MAXIMUM RATINGS ( $T_a = 25^\circ C$ )

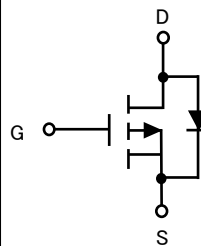
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	-60	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Drain Current(DC) ※1	$I_D$	-3.0	A
Drain Current(Pulse) ※2	$I_{DP}$	-7.0	A
Total Power Dissipation ※1	PD	1.5	W
Channel Temperature	$T_{ch}$	+150	$^\circ C$
Storage Temperature	$T_{stg}$	-55 ~ +150	$^\circ C$

※1: Package mounted on glass-epoxy substrate

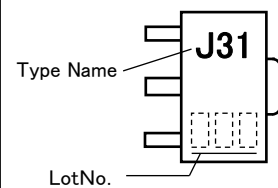
(20mm×20mm×1.0mm, Cu pad 256mm<sup>2</sup>).

※2:  $P_w \leq 1ms$ , Duty cycle  $\leq 1\%$

## EQUIVALENT CIRCUIT



## MARKING



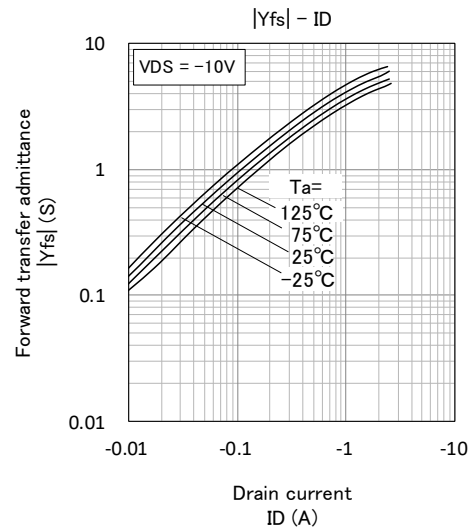
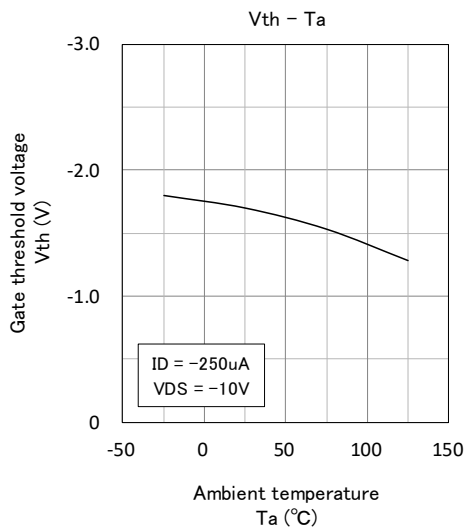
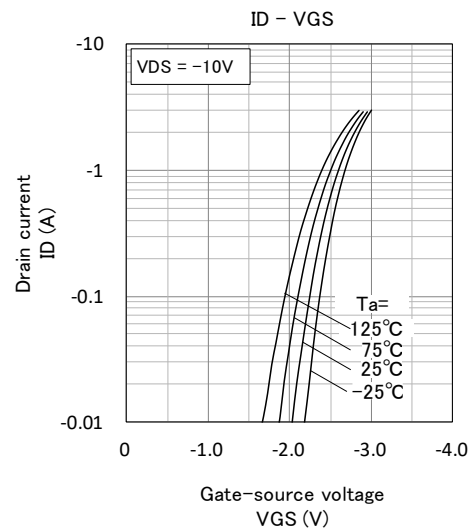
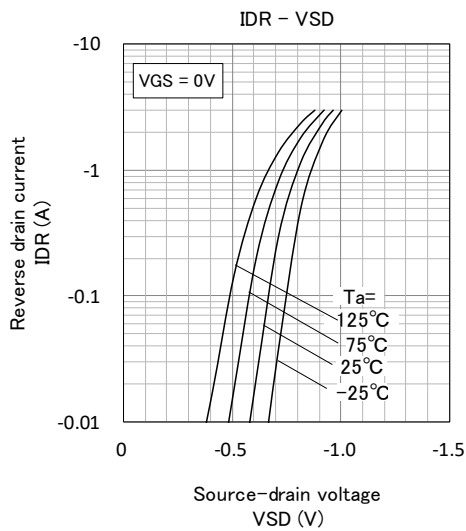
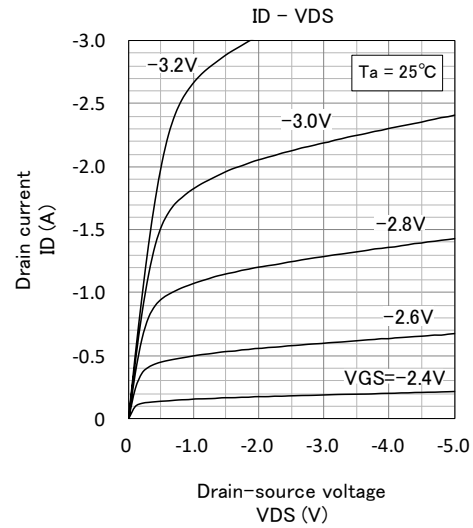
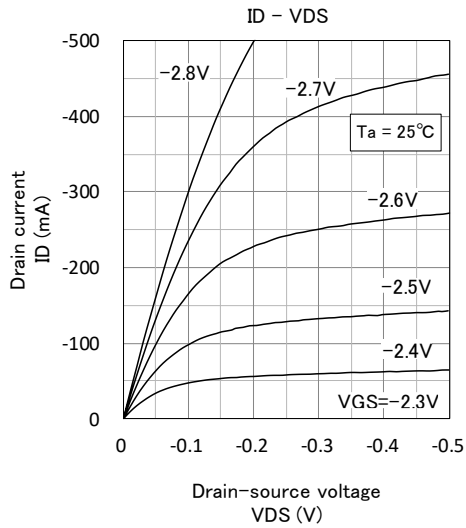
## ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ C$ )

Parameter	Symbol	Test Condition	Limit			Unit
			MIN	TYP	MAX	
Drain-Source Breakdown Voltage	$V(BR)_{DSS}$	$I_D = -250\mu A, V_{GS} = 0V$	-60	-	-	V
Gate-Source Leak Current	$I_{GSS}$	$V_{GS} = \pm 20V, V_{DS} = 0V$	-	-	$\pm 1.0$	$\mu A$
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = -60V, V_{GS} = 0V$	-	-	-1.0	$\mu A$
Gate Threshold Voltage	$V_{th}$	$I_D = -250\mu A, V_{DS} = -10V$	-1.0	-	-2.5	V
Static Drain-Source On-State Resistance	$R_{DS(ON)}$	$I_D = -3.0A, V_{GS} = -4.5V$	-	145	165	$m\Omega$
		$I_D = -3.0A, V_{GS} = -10V$	-	120	140	
Input Capacitance	$C_{iss}$	$V_{DS} = -10V, V_{GS} = 0V, f = 1MHz$	-	760	-	pF
Output Capacitance	$C_{oss}$		-	65	-	
Reverse Transfer Capacitance	$C_{rss}$		-	45	-	
Switching Time	$t_{on}$	$V_{DD} = -20V, I_D = -200mA, V_{GS} = -5V$	-	30	-	ns
	$t_{off}$		-	95	-	

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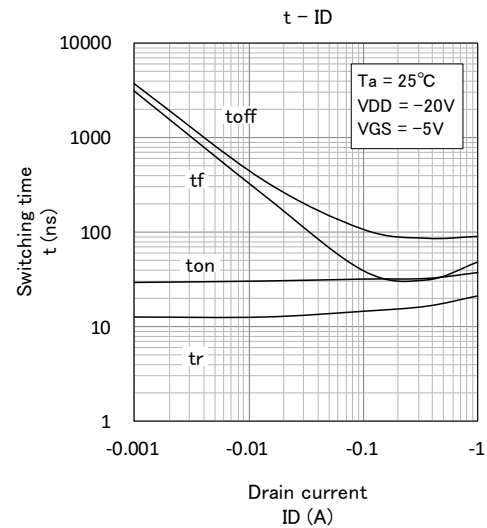
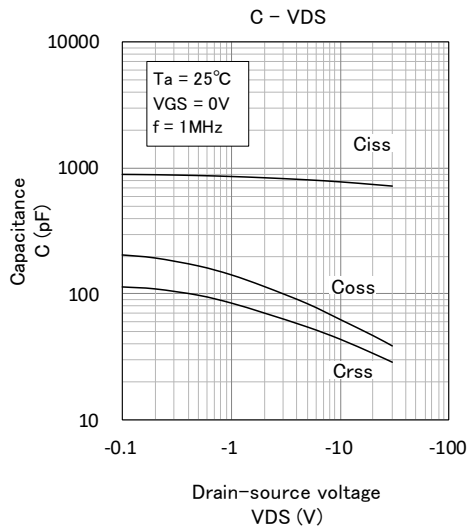
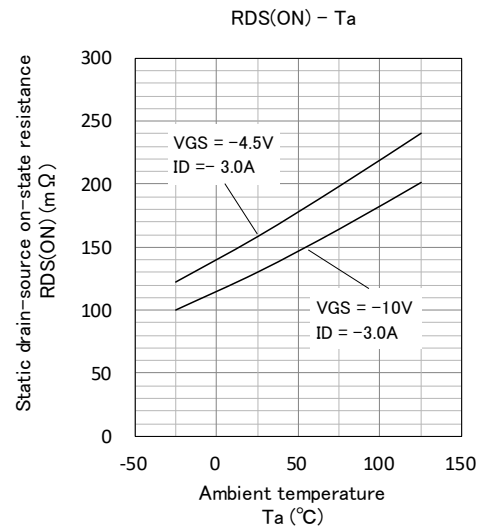
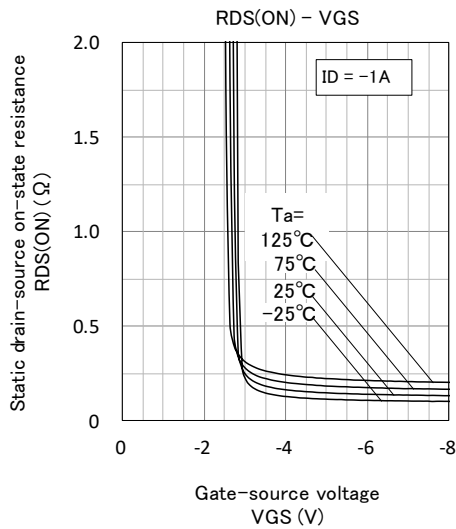
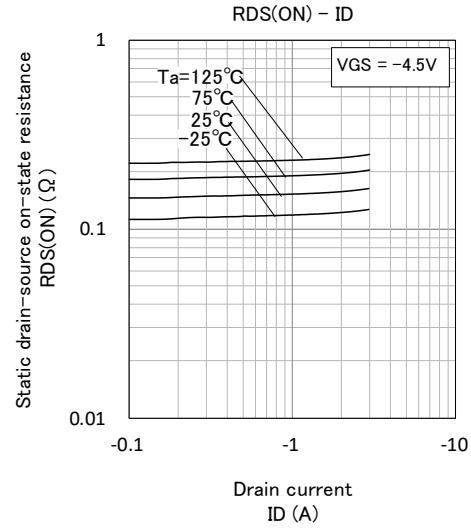
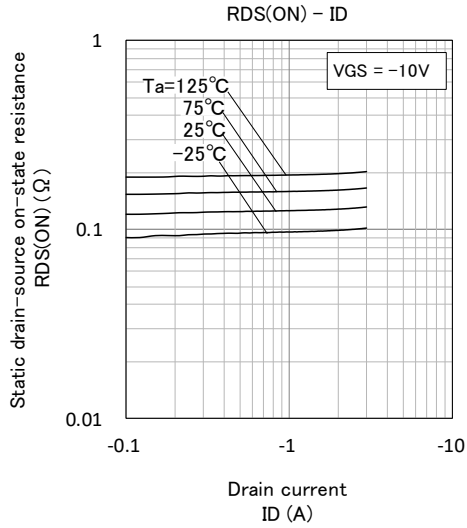
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## TYPICAL CHARACTERISTICS



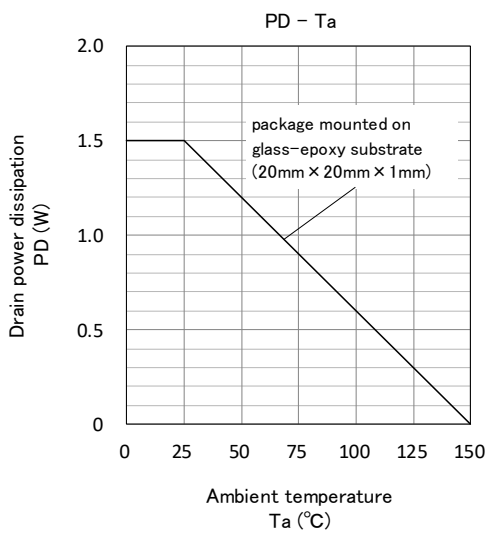
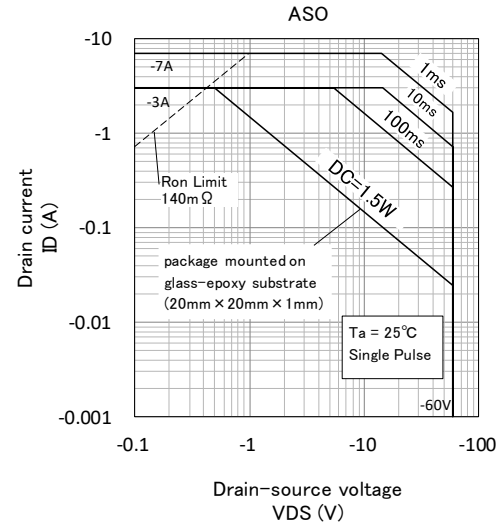
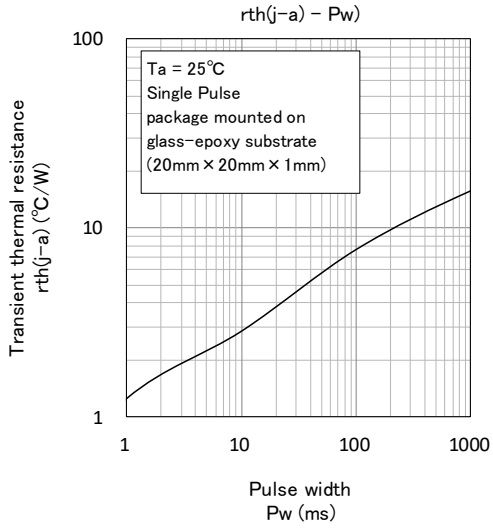
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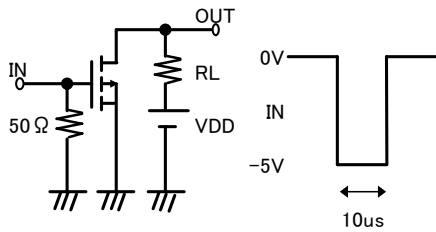


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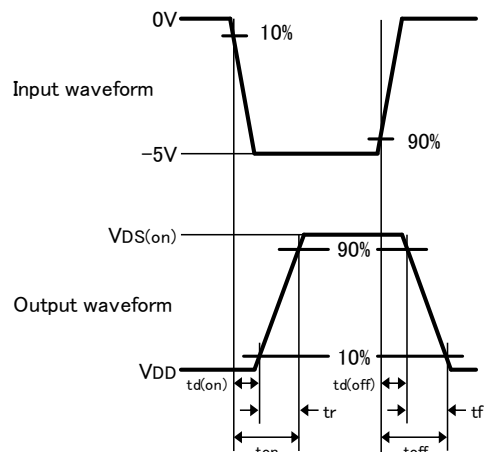
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Switching time test condition



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



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**Keep safety first in your circuit designs!**

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