

INJ0312AP1

High Speed Switching
Silicon P-channel MOSFET

DESCRIPTION

INJ0312AP1 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 $I_D = -2.0A$

• Drive voltage $-4.0V$

• Low on Resistance.

$R_{DS(ON)} = 400m\Omega$ (TYP) @ $I_D = -1.0A$, $V_{GS} = -4.5V$

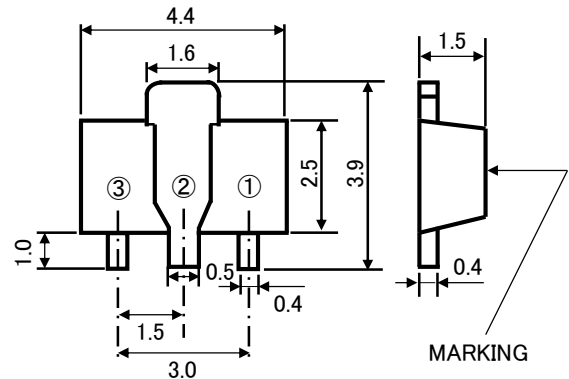
$R_{DS(ON)} = 350m\Omega$ (TYP) @ $I_D = -1.0A$, $V_{GS} = -10V$

APPLICATION

Switching

OUTLINE DRAWING

UNIT: mm



TERMINAL CONNECTOR

JEITA: SC-62

①: GATE

JEDEC: SOT-89

②: DRAIN

③: SOURCE

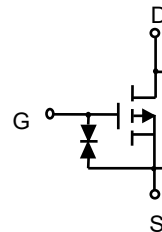
MAXIMUM RATINGS (Ta=25°C)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	-50	V
Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current(DC)	I_D	-2.0	A
Drain current(Pulse) ^{※1}	I_{DP}	-8.0	A
Total Power Dissipation	PD	0.5	W
		$2.0^{※2}$	W
Channel Temperature	T_{ch}	+150	°C
Storage temperature	T_{stg}	-55~+150	°C

※1: $P_w \leq 10\mu s$, Duty cycle $\leq 1\%$

※2: package mounted on ceramic substrate(19mm × 45mm × 1mm).

EQUIVALENT CIRCUIT



MARKING

Type Name

LOTNo.

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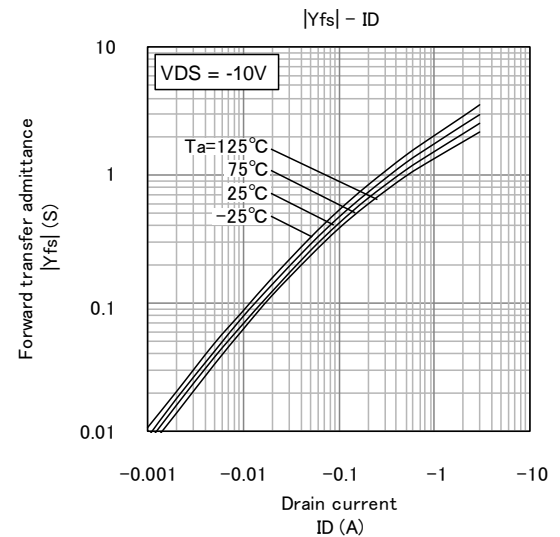
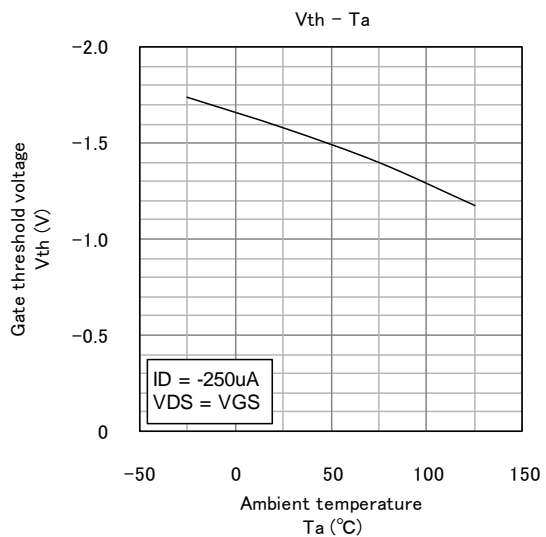
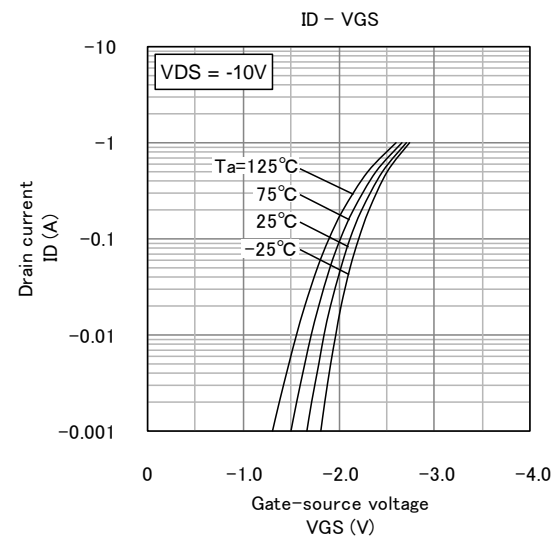
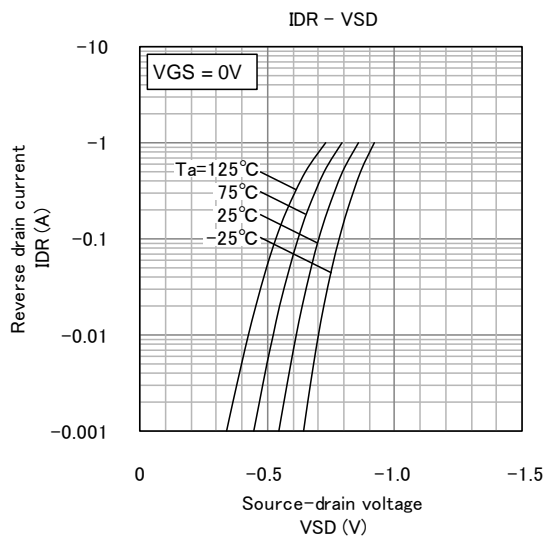
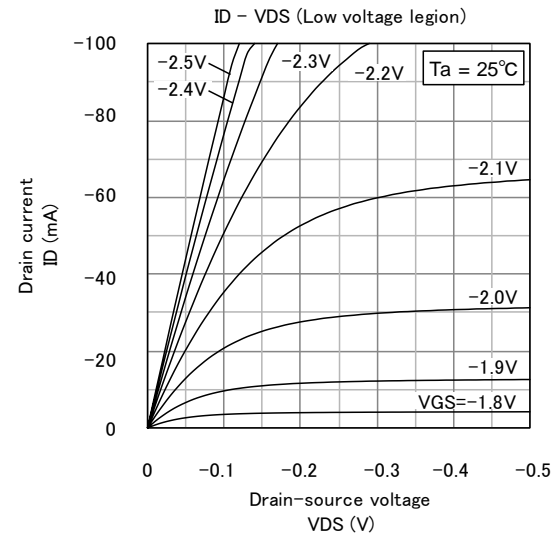
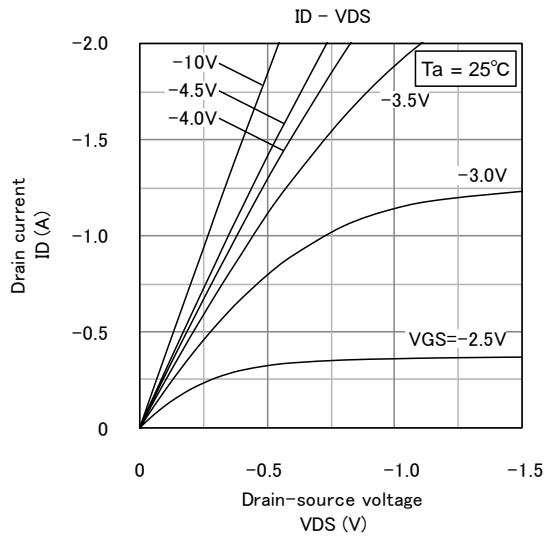
ELECTRICAL CHARACTERISTICS (Ta=25°C)

Parameter	Symbol	Test Condition	Limit			Unit
			MIN	TYP	MAX	
Drain-Source Breakdown Voltage	$V(BR)_{DSS}$	$I_D = -100\mu A$, $V_{GS} = 0V$	-50	-	-	V
Gate-Source Leak current	I_{GSS}	$V_{GS} = \pm 20V$, $V_{DS} = 0V$	-	-	± 10	μA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -50V$, $V_{GS} = 0V$	-	-	-1.0	μA
Gate Threshold Voltage	V_{th}	$I_D = -250\mu A$, $V_{DS} = V_{GS}$	-1.0	-	-2.5	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = -10V$, $I_D = -1A$	-	1.8	-	S
Static Drain-Source On-State Resistance	$R_{DS(ON)}$	$I_D = -1A$, $V_{GS} = -4.5V$	-	400	-	$m\Omega$
		$I_D = -1A$, $V_{GS} = -10V$	-	350	-	
Input Capacitance	C_{iss}	$V_{DS} = -10V$, $V_{GS} = 0V$, $f = 1MHz$	-	165	-	pF
Output Capacitance	C_{oss}		-	35	-	
Switching Time	t_{on}	$V_{DD} = -15V$, $I_D = -1A$, $V_{GS} = 0 \sim -10V$	-	80	-	ns
	t_{off}		-	490	-	

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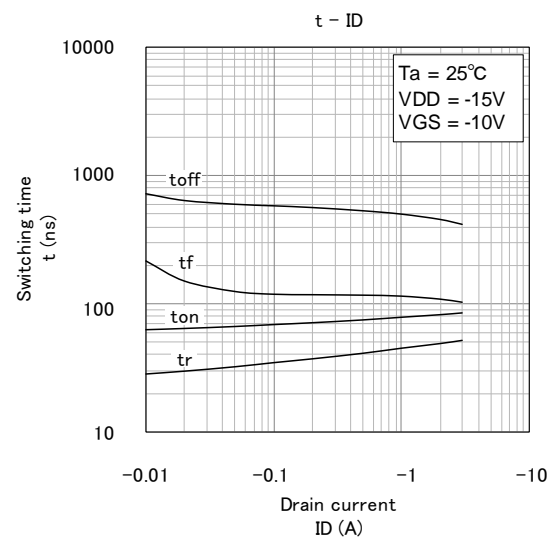
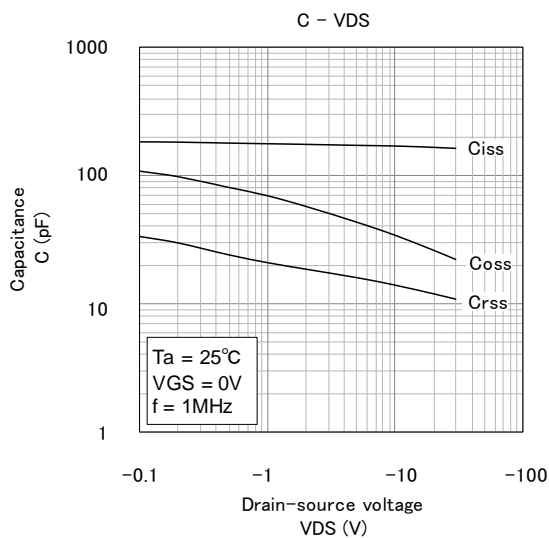
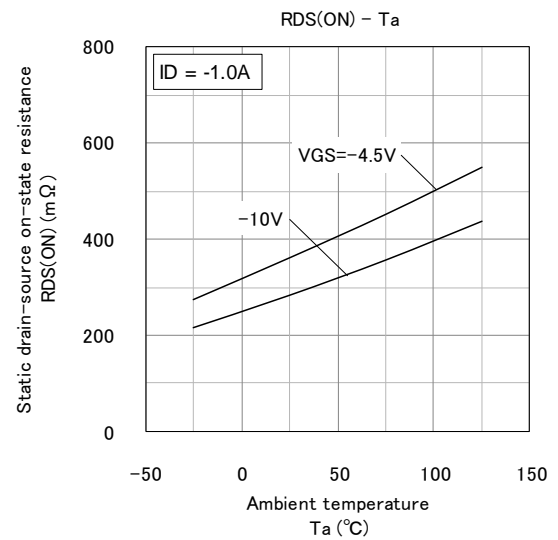
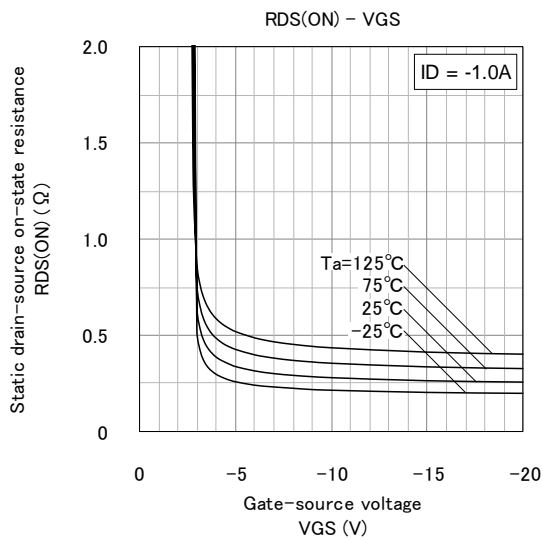
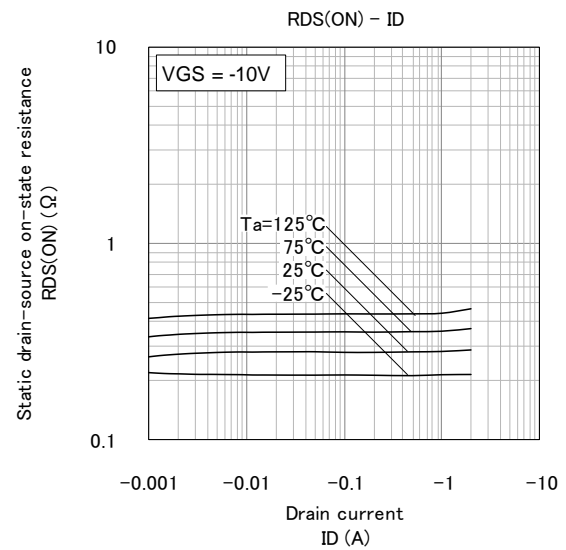
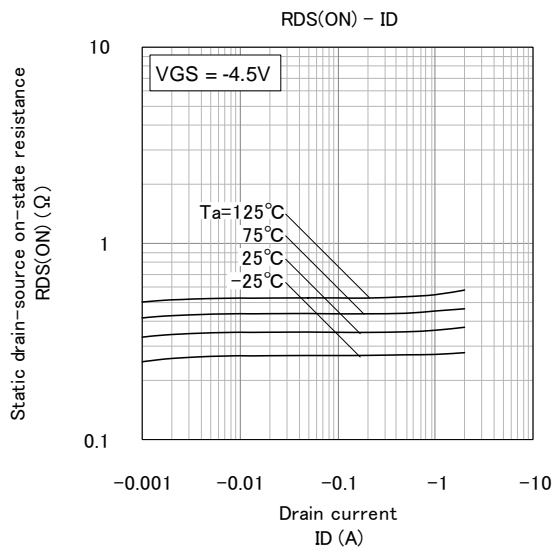
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TYPICAL CHARACTERISTICS



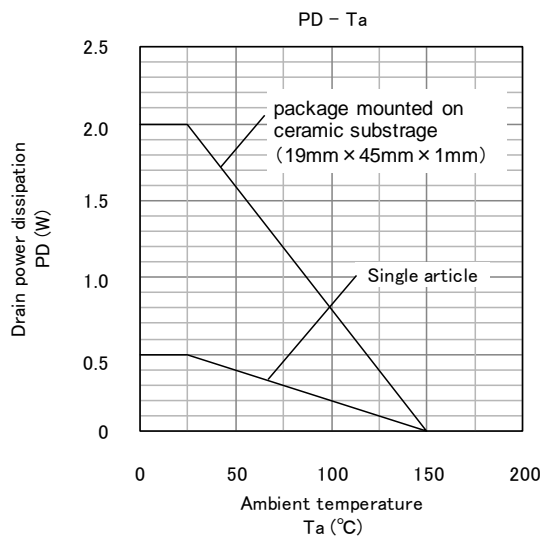
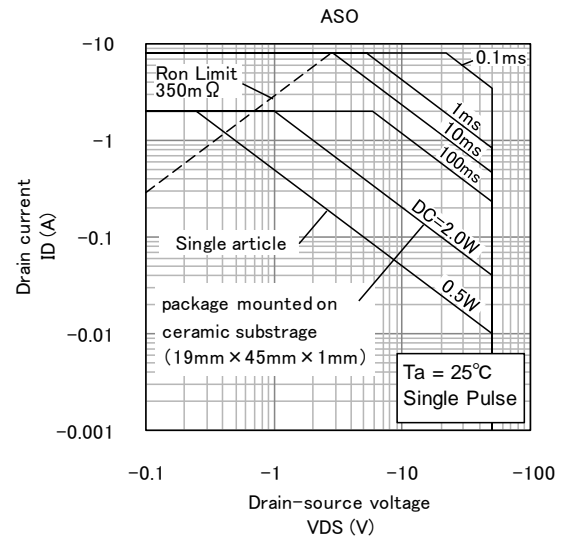
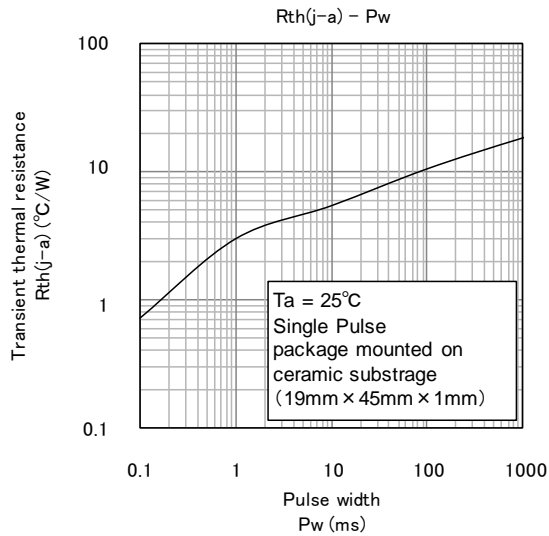
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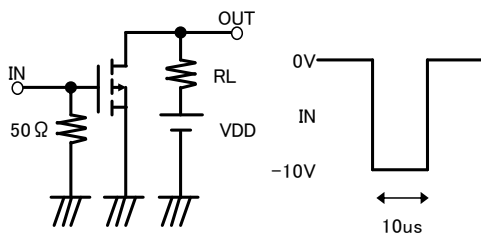


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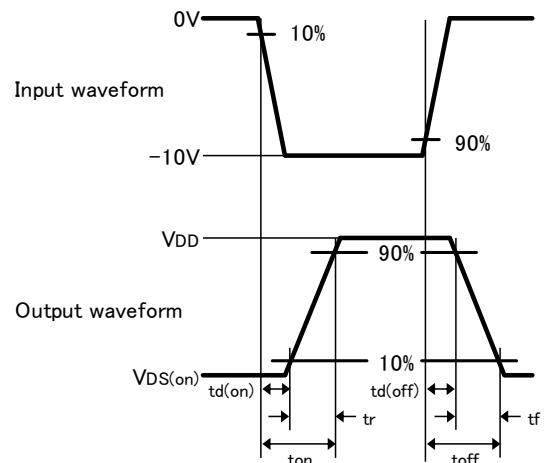
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Switching time test condition



Duty \leq 1%
Input: $t_r, t_f < 10ns$
VDD = -15V
Common source
 $T_a = 25^{\circ}C$



Keep safety first in your circuit designs!

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