

INJ0310AC1

High Speed Switching
Silicon P-channel MOSFET

DESCRIPTION

INJ0310AC1 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 $I_D = -2.5A$
- Drive voltage $-4V$
- Low on Resistance. $R_{DS(ON)} = 110m\Omega$ typ(@ $V_{GS} = -10V$)
 $R_{DS(ON)} = 139m\Omega$ typ(@ $V_{GS} = -4.5V$)
- High speed switching.

APPLICATION

High speed switching, Analog switching

MAXIMUM RATINGS (Ta=25°C)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-60	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current(DC) (※1)	I_D	-2.5	A
Drain Current(Pulse) (※2)	I_{DP}	-10	A
Total Power Dissipation (※1)	PD	0.9	W
Channel Temperature	T_{ch}	+150	°C
Storage Temperature	T_{stg}	-55~+150	°C

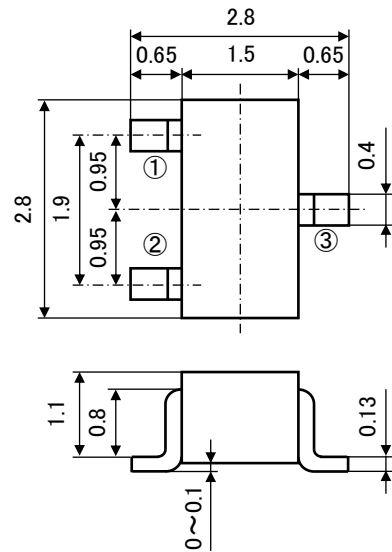
※1 package mounted on glass-epoxy substrate.

(39mm × 39mm × 1.6mm, Cu pad 1500mm²)

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

OUTLINE DRAWING

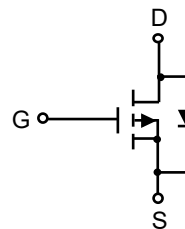
Unit: mm



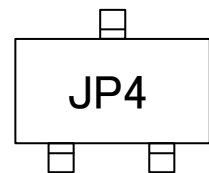
TERMINAL CONNECTOR

- ①: GATE
②: SOURCE
③: DRAIN
- JEITA: SC-59
JEDEC: Similar to TO-236

EQUIVALENT CIRCUIT



MARKING



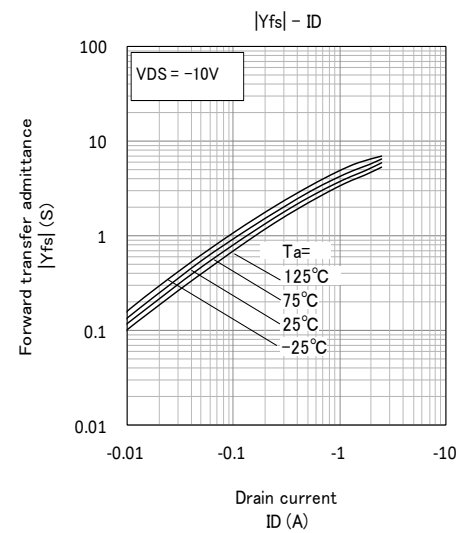
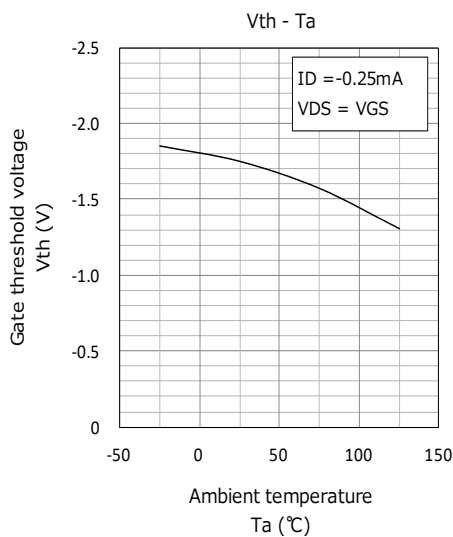
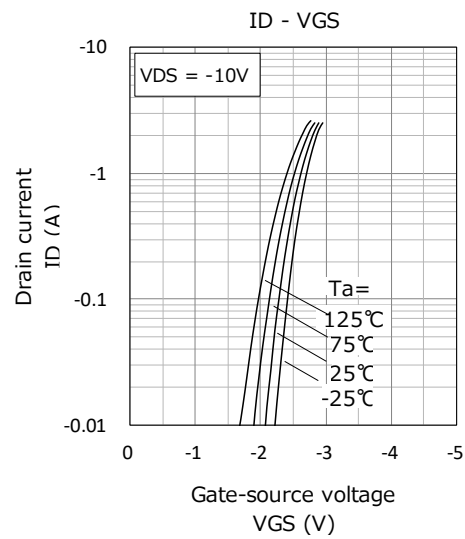
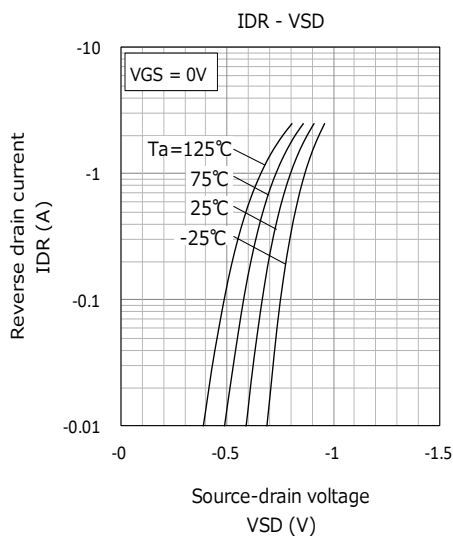
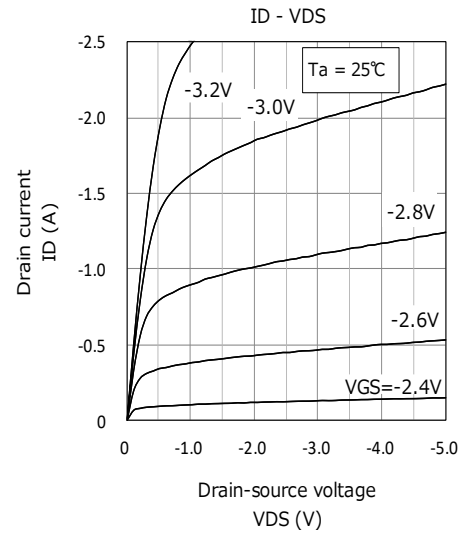
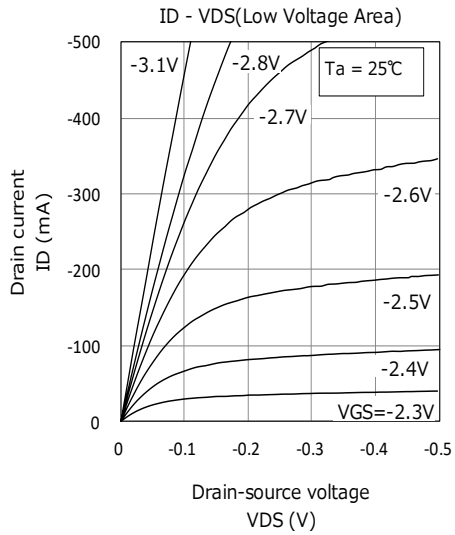
ELECTRICAL CHARACTERISTICS (Ta=25°C)

Parameter	Symbol	Test Condition	Limit			Unit
			MIN	TYP	MAX	
Drain-Source Breakdown Voltage	$V_{(BR)DS}$	$I_D = -250\mu A, V_{GS} = 0V$	-60	-	-	V
Gate-Source Leak Current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$	-	-	± 1.0	μA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -60V, V_{GS} = 0V$	-	-	-1.0	μA
Gate Threshold Voltage	V_{th}	$I_D = -250\mu A, V_{DS} = V_{GS}$	-1.0	-	-2.5	V
Static Drain-Source On-State Resistance	$R_{DS(ON)}$	$I_D = -2.5A, V_{GS} = -4.5V$	-	139	196	$m\Omega$
		$I_D = -2.5A, V_{GS} = -10V$	-	110	143	
Input Capacitance	C_{iss}	$V_{DS} = -10V, V_{GS} = 0V, f = 1MHz$	-	740	-	pF
Output Capacitance	C_{oss}		-	60	-	
Feedback Capacitance	C_{rss}		-	70	-	
Switching Time	t_{on}	$V_{DD} = -20V, I_D = -200mA, V_{GS} = -5V$	-	30	-	ns
	t_{off}		-	110	-	

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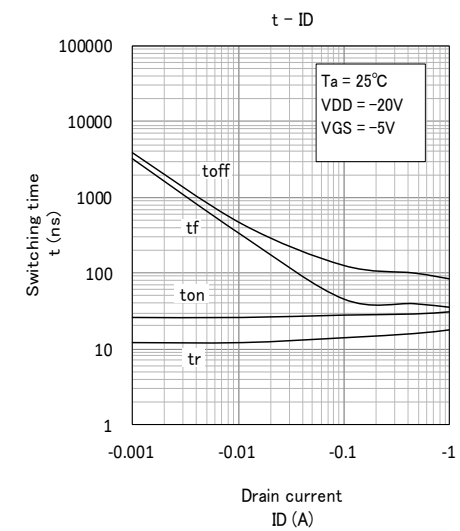
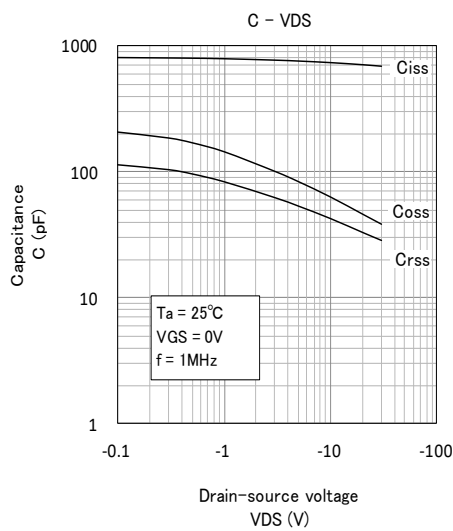
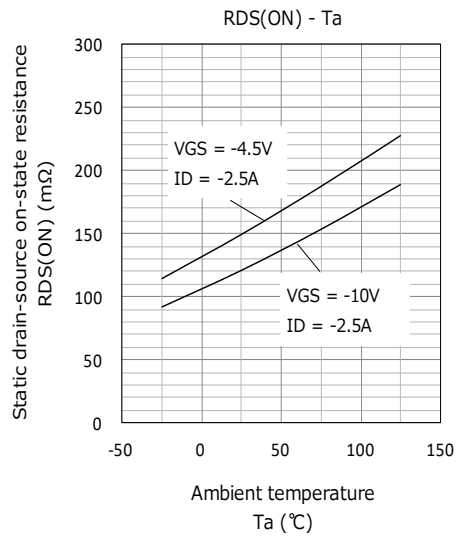
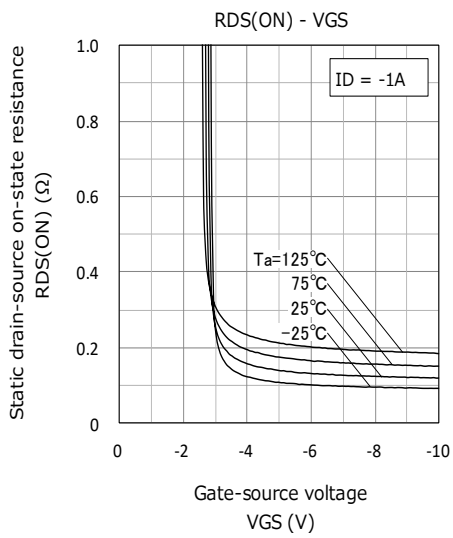
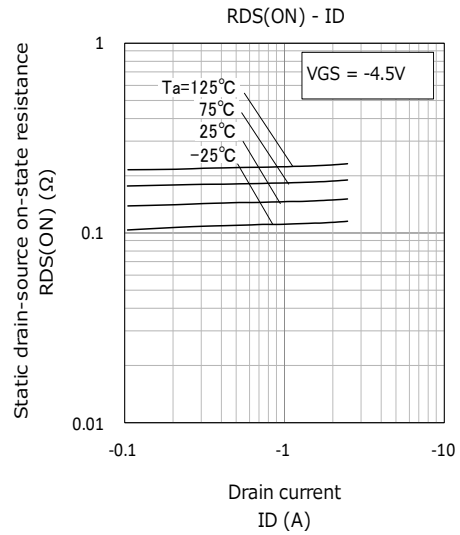
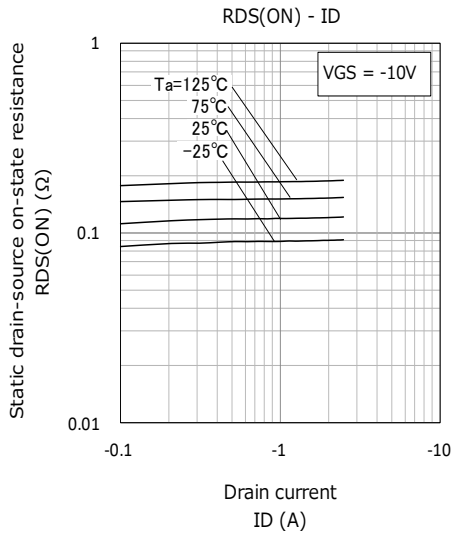
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TYPICAL CHARACTERISTICS



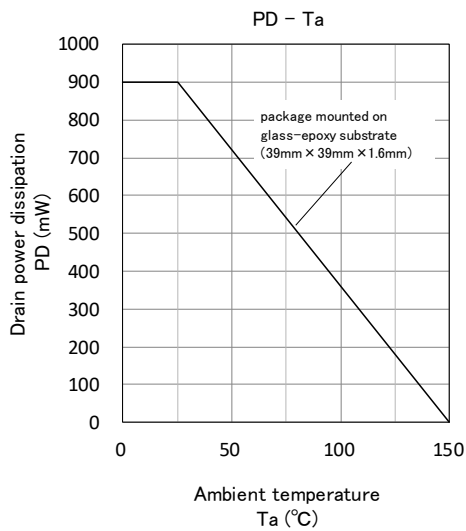
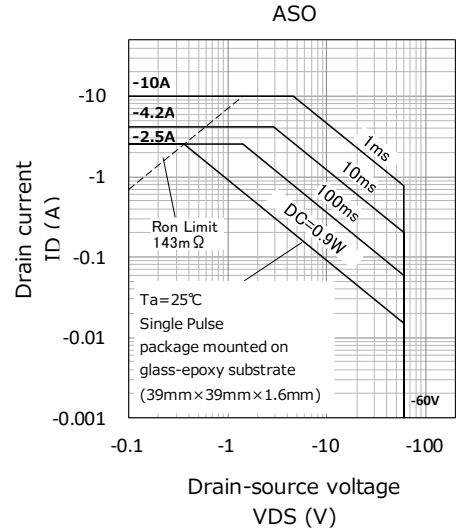
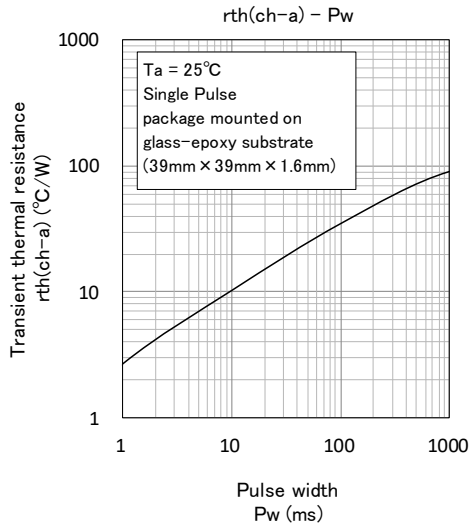
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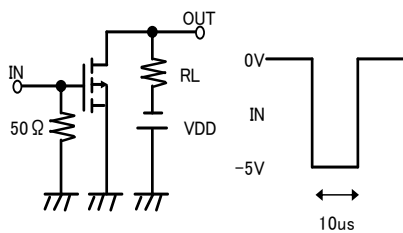


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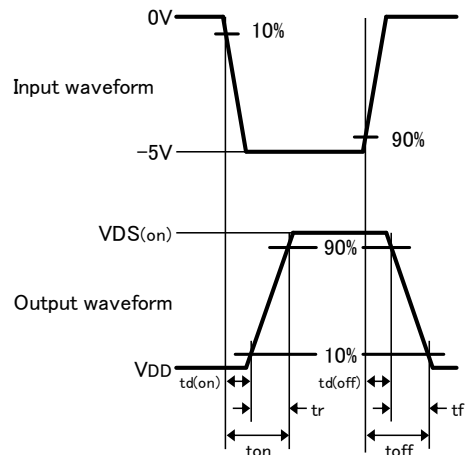
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Switching time test condition



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



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