

PRELIMINARY

Notice: This is not a final specification.
Some parametric are subject to change.

INK0512AP1

High Speed Switching
Silicon N-channel MOSFET

DESCRIPTION

INK0512AP1 is a Silicon N-channel MOSFET.

This product is most suitable for use such as portable machinery, because voltage drive and low on resistance.

FEATURE.

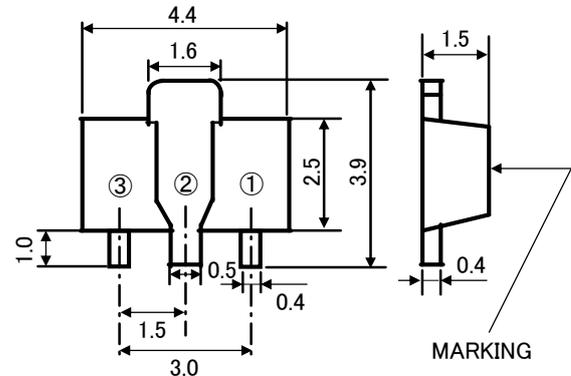
- Input impedance is high, and unnecessary to consider a drive electric current.
- High drain current $I_D=4.5A$
- Low on Resistance. $R_{DS(on)}=47m\Omega$ typ.
- Built-in gate protection diode
- High speed switching.

FEATURE

Switching

OUTLINE DRAWING

UNIT: mm



TERMINAL CONNECTOR

- ①: GATE
- ②: DRAIN
- ③: SOURCE

JEITA: SC-62

JEDEC: SOT-89

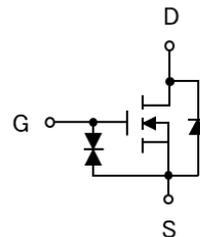
MAXIMUM RATINGS (Ta=25°C)

Symbol	Parameter	Rating	Unit
VDSS	Drain-Source Voltage	30	V
VGSS	Gate-Source Voltage	±20	V
ID	Drain Current(DC)	4.5	A
IDP	Drain current(Pulse) ※1	9	A
PD	Total Power Dissipation	0.7(※2)	W
Tch	Channel Temperature	+150	°C
Tstg	Storage temperature	-55~+150	°C

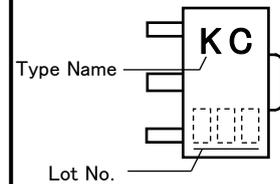
※1: Single pulse, $P_w \leq 1ms$

※2: package mounted on glass-epoxy substrate(9mm × 19mm × 1mm).

EQUIVALENT CIRCUIT



MARKING



ELECTRICAL CHARACTERISTICS (Ta=25°C)

Parameter	Symbol	Test Condition	Limit			Unit
			MIN	TYP	MAX	
Drain-Source Breakdown Voltage	V(BR)DSS	$I_D=100\mu A, V_{GS}=0V$	30	-	-	V
Gate-Source Leak current	IGSS	$V_{GS}=\pm 20V, V_{DS}=0V$	-	-	±10	μA
Zero Gate Voltage Drain Current	IDSS	$V_{DS}=100V, V_{GS}=0V$	-	-	1	μA
Gate Threshold Voltage	Vth	$I_D=250\mu A, V_{DS}=V_{GS}$	1.0	-	2.5	V
Static Drain-Source On-State Resistance	RDS(ON)	$I_D=4.5A, V_{GS}=4V$	-	53	-	mΩ
		$I_D=4.5A, V_{GS}=4.5V$	-	47	-	mΩ
Input Capacitance	Ciss	$V_{DS}=10V, V_{GS}=0V, f=1MHz$	-	500	-	pF
Output Capacitance	Coss		-	100	-	pF
Switching Time	ton	$V_{DD}=30V, I_D=1A$	-	36	-	ns
	toff	$V_{GS}=0\sim 5V$	-	50	-	ns

Keep safety first in your circuit designs!

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