

MIP501, MIP502

Silicon MOS IC

■ Features

- High breakdown voltage, N-Ch MOS FET output
($V_{DSS} > 40V$ $R_{on} < 0.5\Omega$)
- Over-current-protection function built-in
- Reset function built-in
- Direct drive possible by the logic circuit

■ Applications

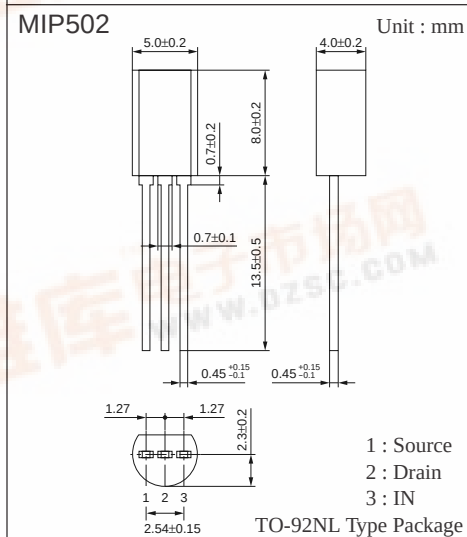
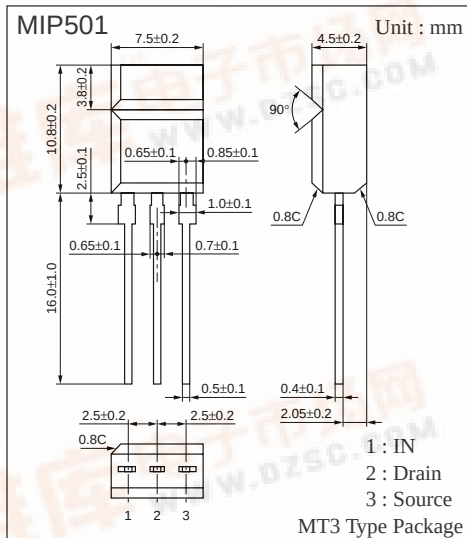
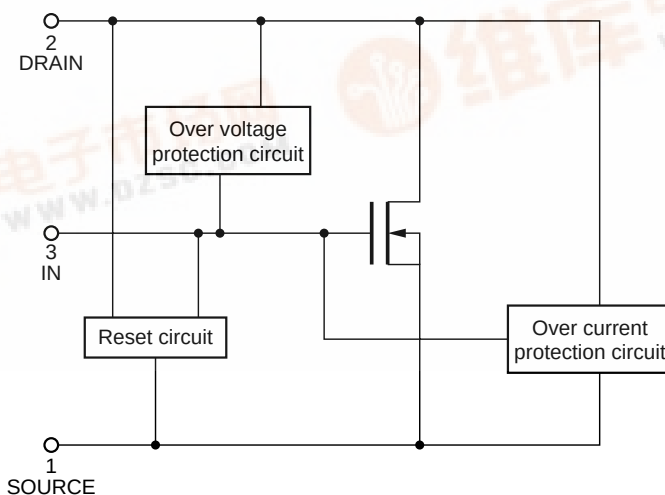
- Lamp drive

■ Absolute Maximum Ratings ($T_a = 25^\circ C$)

Parameter	Symbol	Rating	Unit
Output breakdown voltage	V_{DSS}	40	V
Output peak current	I_{OP}	5	A
Output current	I_{OA}	1.7	A
Input voltage	V_{IN}	-0.5 to 6	V
Input current	I_{IN}	± 10	mA
Allowable power dissipation	MIP501	P_D 1.5	W
	MIP502	1*	
Junction temperature	T_j	150	$^\circ C$
Storage temperature	T_{stg}	-55 to +150	$^\circ C$
Operating temperature	T_{opr}	-40 to +85	$^\circ C$

* The value at mounted on PCB (glass epoxy resin: 100×100mm). (For MIP502 only)

■ Block Diagram



■ Pin Descriptions

No.1 pin : GND pin. Connect to the GND pin. (Source)

No.2 pin : Output pin. Connect to the load. The current flowing into this terminal is limited at about 5A. When this terminal voltage exceeds about 4.6V, the output MOS FET is turned OFF. (Drain)

No.3 pin : Input pin. The signal from the logic is inputted to drive the device. When this is open, the output MOS FET turns OFF.

■ Electrical Characteristics (Ta= 25°C)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain-Source ON-resistance	$R_{DS(ON)}$	$V_{IN} = 5V, I_O = 1.5A$			0.5	Ω
Drain voltage	$V_{DS(ON)}$	$V_{IN} = 5V, I_O = 1.5A$			0.75	V
Drain breakdown voltage	V_{DSS}	$I_{DSS} = 3mA$	40			V
Drain leakage current (1)	$I_{DSS(1)}$	$V_{DSS} = 40V$			3.0	mA
Drain leakage current (2)	$I_{DSS(2)}$	$V_{DSS} = 25V$			1.5	mA
Input voltage	$V_{IN(H)}$		4.5	5.0	6.0	V
	$V_{IN(L)}$				0.8	V
Over-current protection	I_{OCP}	$V_{IN} = 5V$		5.0		A
Reset voltage	V_{RESET}	$V_{IN} = 5V$		4.6		V
Input current	$I_{IN(opr)}$	$V_{IN} = 5V, V_{DS} = 1V$			1.0	mA

