



# ATP101 — P-Channel Silicon MOSFET

## General-Purpose Switching Device

### Applications

#### Features

- Low ON-resistance
- Slim package
- Halogen free compliance
- Large current
- 4.5V drive
- Protection diode in

#### Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		-30	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±20	V
Drain Current (DC)	I <sub>D</sub>		-25	A
Drain Current (PW≤10μs)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	-75	A
Allowable Power Dissipation	P <sub>D</sub>	Tc=25°C	30	W
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C
Avalanche Energy (Single Pulse) *1	E <sub>AS</sub>		25	mJ
Avalanche Current *2	I <sub>AV</sub>		-13	A

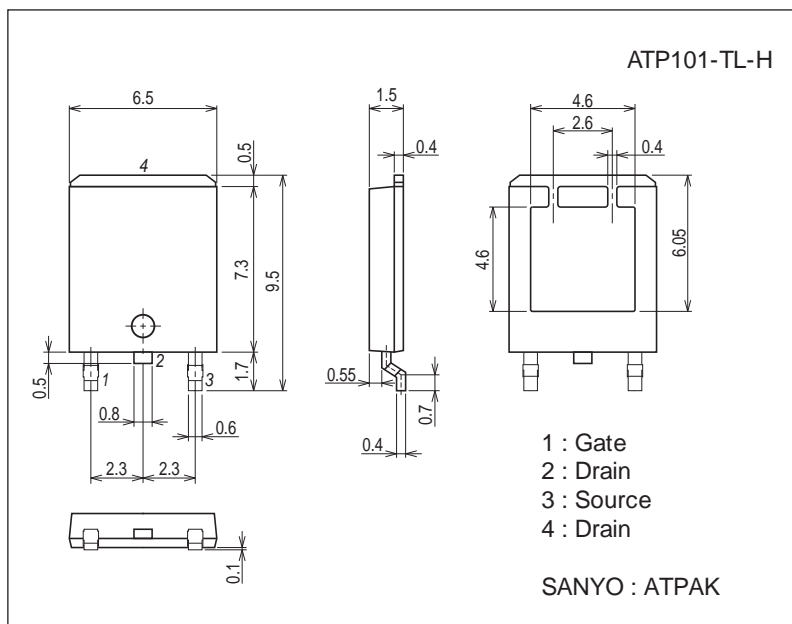
Note : \*1 V<sub>DD</sub>=-10V, L=200μH, I<sub>AV</sub>=-13A

\*2 L≤200μH, Single pulse

#### Package Dimensions

unit : mm (typ)

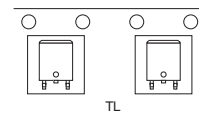
7057-001



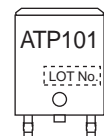
#### Product & Package Information

- Package : ATPAK
- JEITA, JEDEC : -
- Minimum Packing Quantity : 3,000 pcs./reel

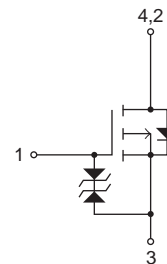
#### Packing Type: TL



#### Marking



#### Electrical Connection

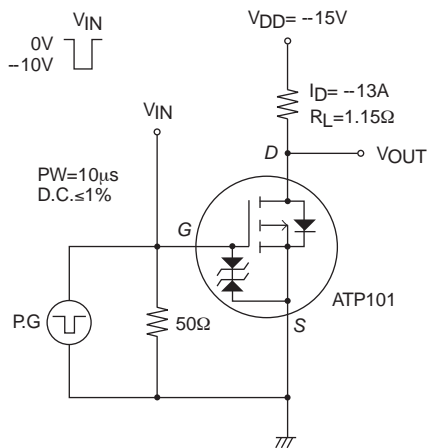


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## Electrical Characteristics at Ta=25°C

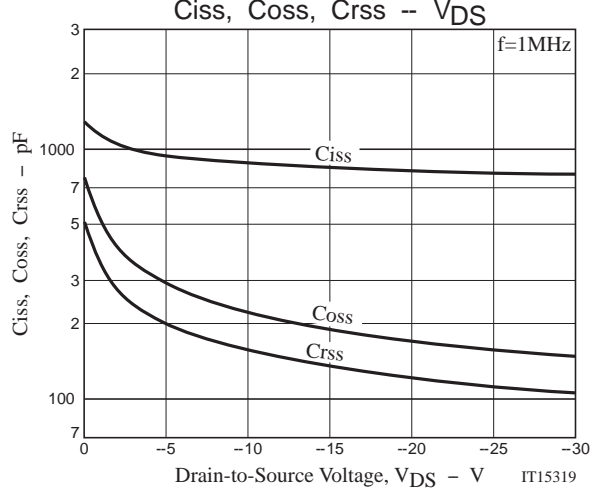
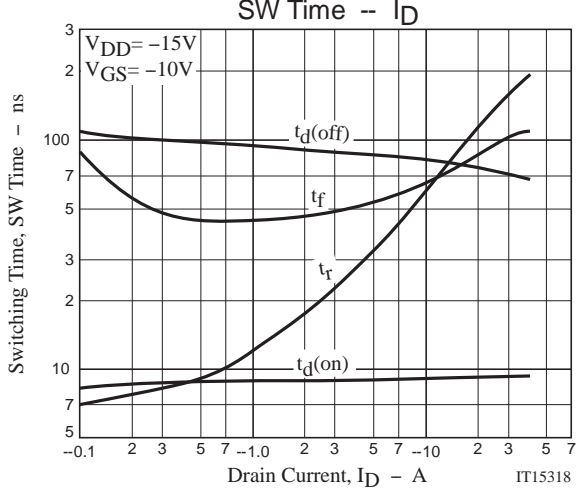
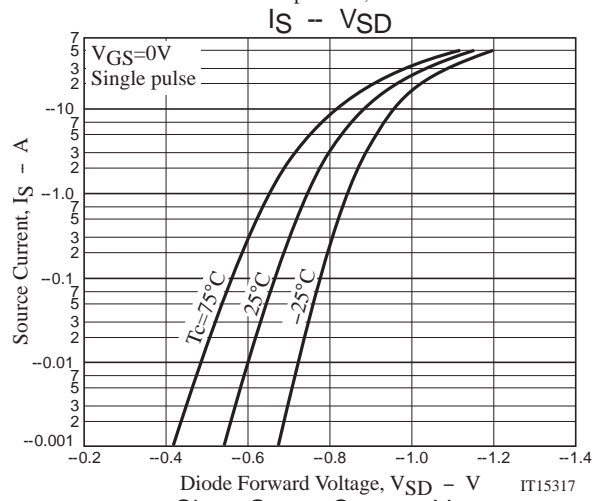
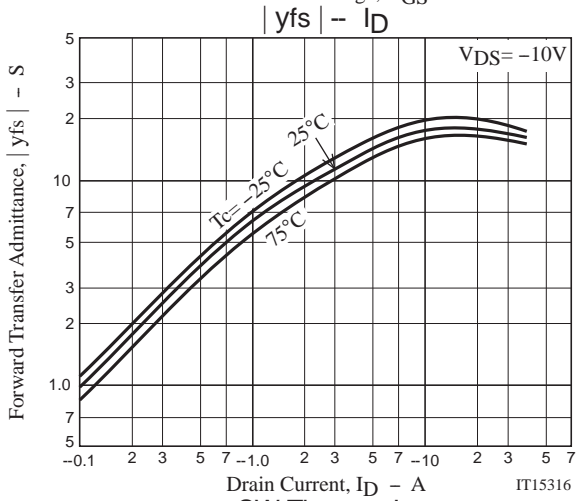
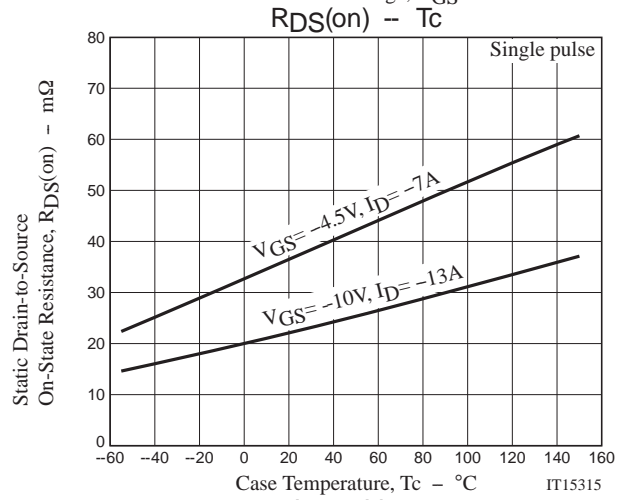
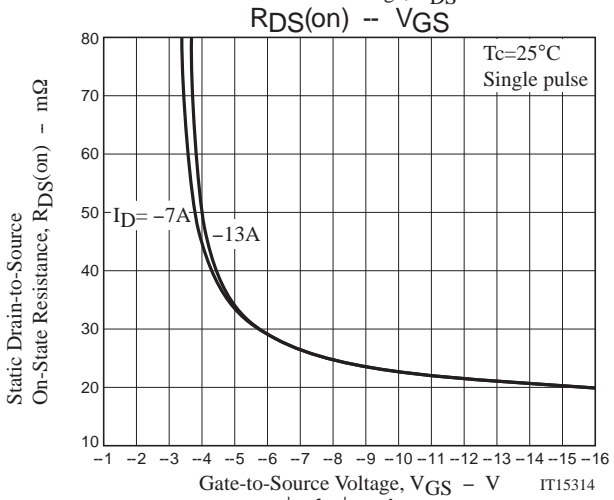
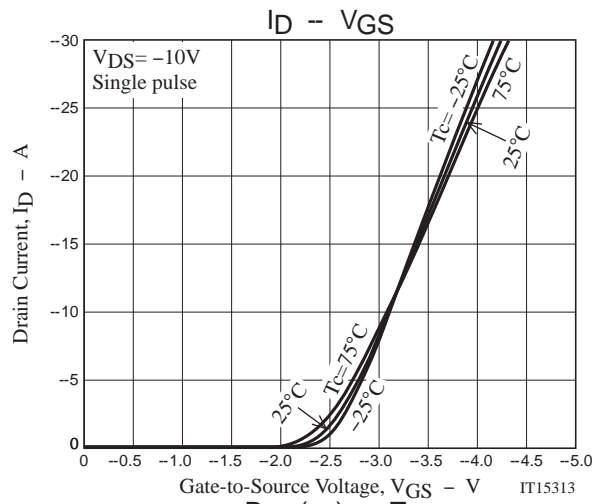
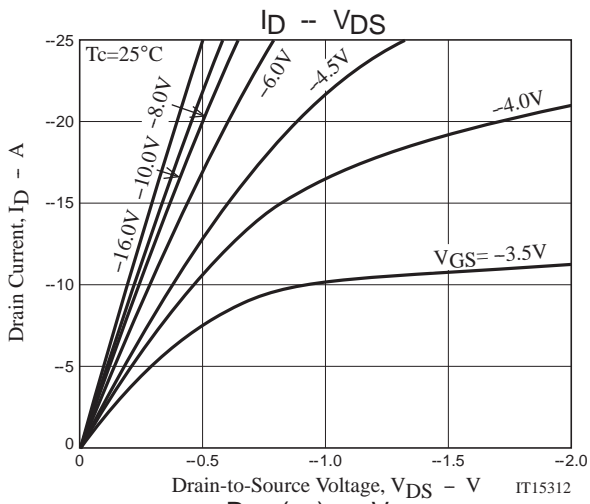
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=-1mA, VGS=0V	-30			V
Zero-Gate Voltage Drain Current	IDSS	VDS=-30V, VGS=0V			-1	μA
Gate-to-Source Leakage Current	IGSS	VGS=±16V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=-10V, ID=-1mA	-1.2		-2.6	V
Forward Transfer Admittance	yfs	VDS=-10V, ID=-13A		17		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=-13A, VGS=-10V		23	30	mΩ
	RDS(on)2	ID=-7A, VGS=-4.5V		36	51	mΩ
Input Capacitance	Ciss	VDS=-10V, f=1MHz		875		pF
Output Capacitance	Coss			220		pF
Reverse Transfer Capacitance	Crss			155		pF
Turn-ON Delay Time	td(on)	See specified Test Circuit.		9.2		ns
Rise Time	tr			70		ns
Turn-OFF Delay Time	td(off)			80		ns
Fall Time	tf			70		ns
Total Gate Charge	Qg	VDS=-15V, VGS=-10V, ID=-25A		18.5		nC
Gate-to-Source Charge	Qgs			3.2		nC
Gate-to-Drain "Miller" Charge	Qgd			4.0		nC
Diode Forward Voltage	VSD	IS=-25A, VGS=0V		-0.99	-1.5	V

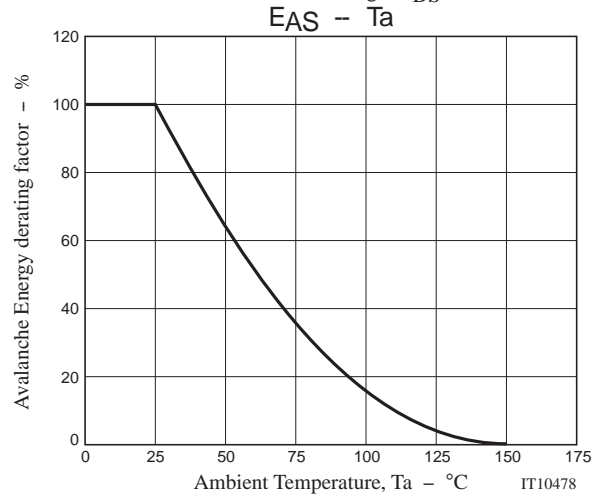
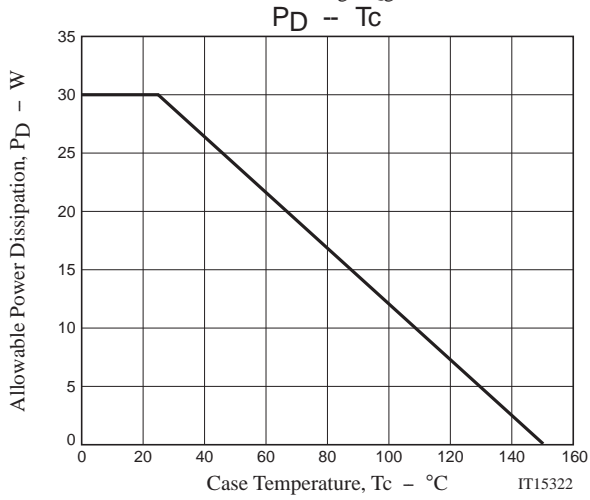
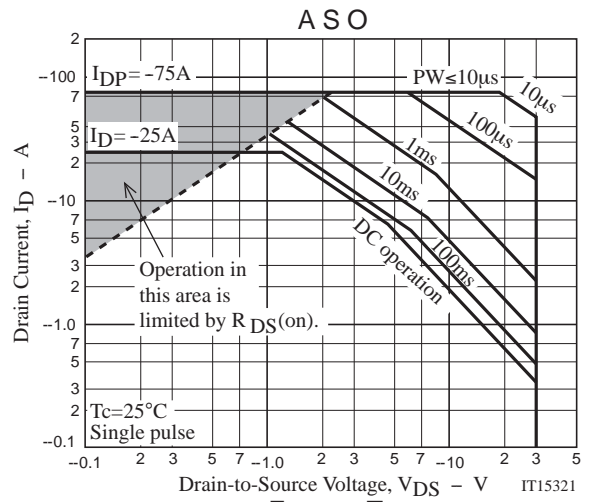
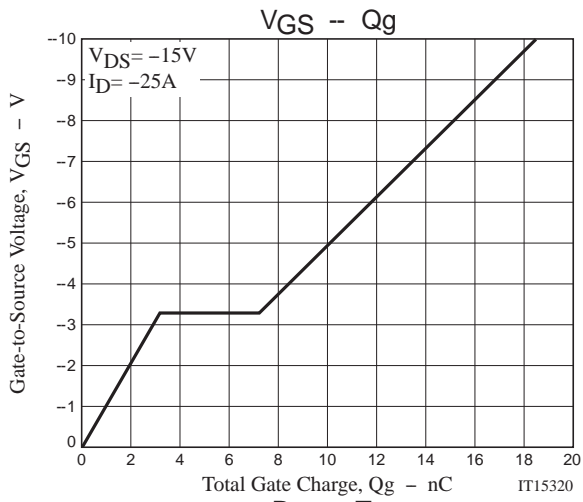
## Switching Time Test Circuit



## Ordering Information

Device	Package	Shipping	memo
ATP101-TL-H	ATPAK	3,000pcs./reel	Pb Free and Halogen Free





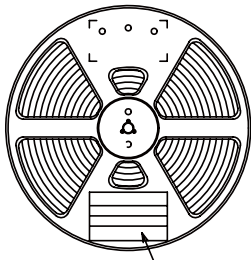
Taping Specification

ATP101-TL-H

1. Packing Format (TL)

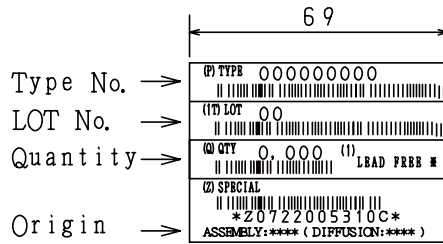
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	INNER BOX SD-C-18	OUTER BOX SD-A-18
ATPAK	ATP	3,000	3,000	15,000	1 reels contained Dimensions:mm (external) 340×340×28	5 inner boxes contained Dimensions:mm (external) 355×355×165

Packing method



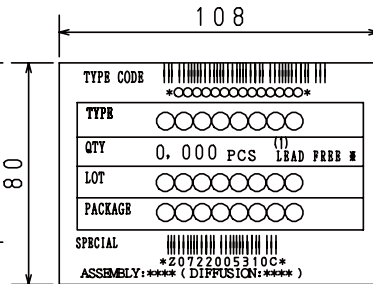
Reel label

Reel label, Inner box label  
(unit:mm)



Outer box label

It is a label at the time of factory shipments. The form of a label may change in physical distribution process.



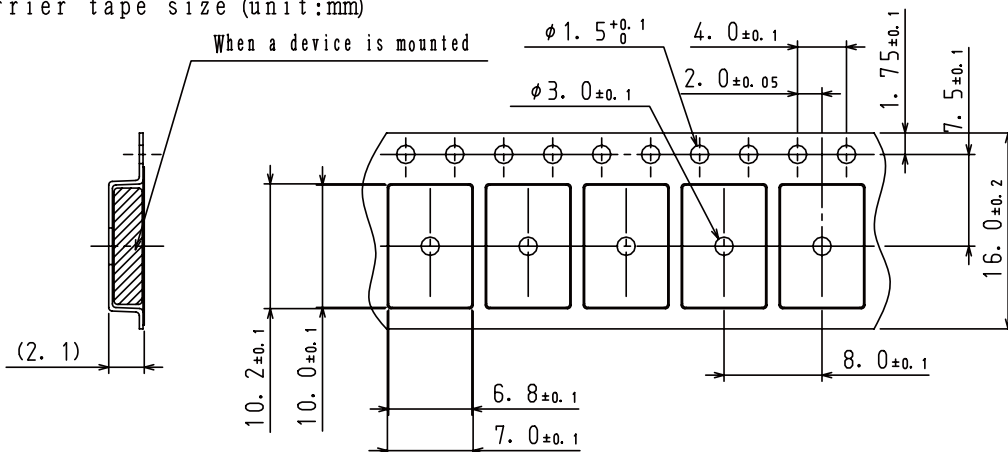
NOTE (1)

The LEAD FREE \* description shows that the surface treatment of the terminal is lead free.

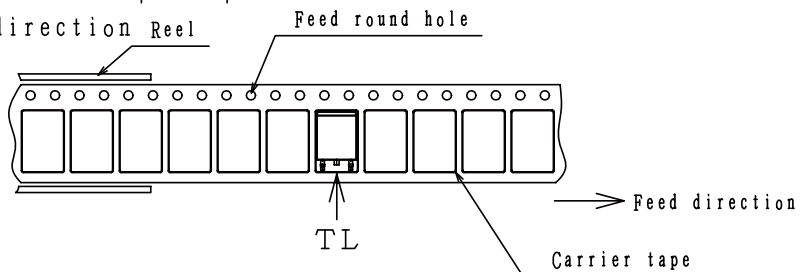
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

2-1. Carrier tape size (unit:mm)



2-2. Device placement direction Reel

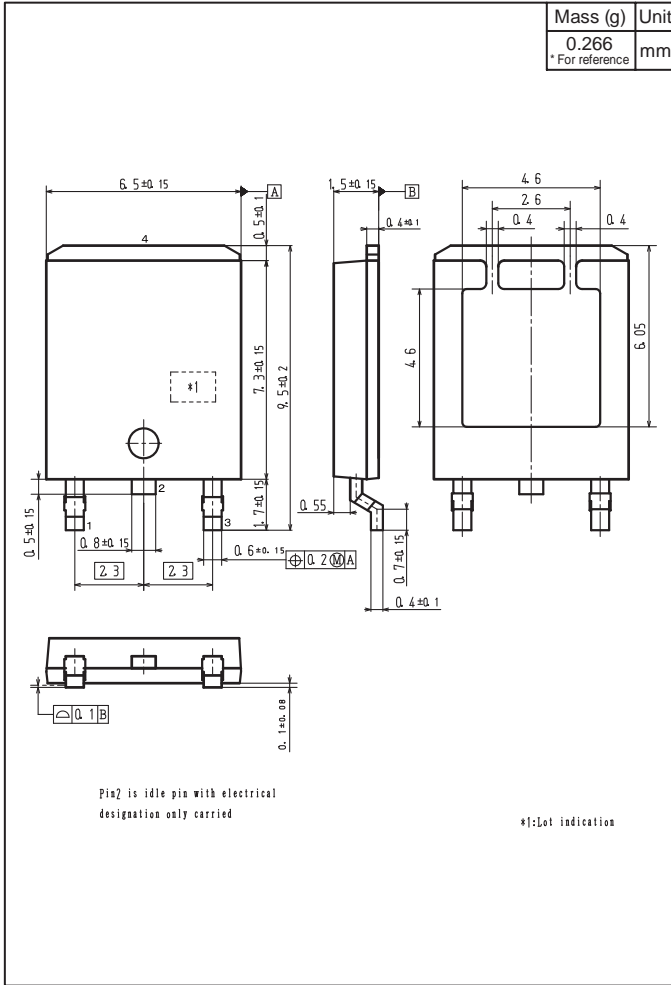


The one electrode terminals on feed hole side...TL

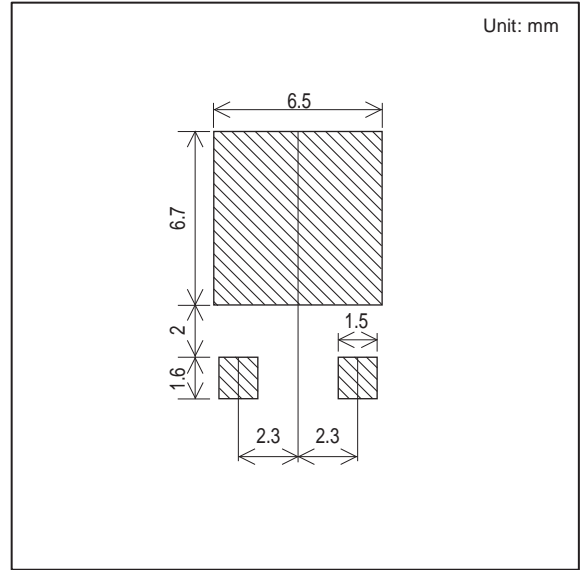
# ATP101

## Outline Drawing

ATP101-TL-H



## Land Pattern Example



Note on usage : Since the ATP101 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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