



N-Channel Silicon MOSFET

ATP213 — General-Purpose Switching Device Applications

Features

- Low ON-resistance
- 4V drive
- Halogen free compliance
- Large current
- Slim package
- Protection diode in

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		60	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		50	A
Drain Current (PW≤10μs)	I _{DP}	PW≤10μs, duty cycle≤1%	150	A
Allowable Power Dissipation	P _D	Tc=25°C	50	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C
Avalanche Energy (Single Pulse) *1	E _{AS}		37	mJ
Avalanche Current *2	I _{AV}		25	A

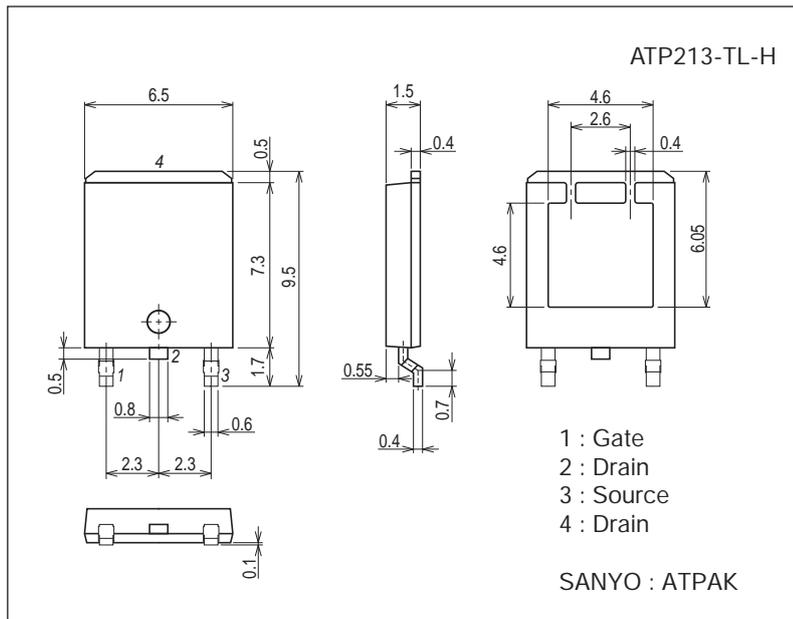
Note : *1 V_{DD}=10V, L=100μH, I_{AV}=25A

*2 L≤100μH, Single pulse

Package Dimensions

unit : mm (typ)

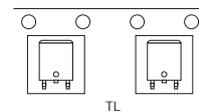
7057-001



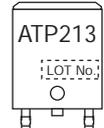
Product & Package Information

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

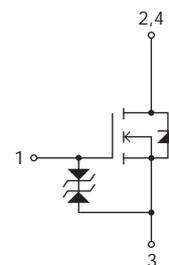
Packing Type: TL



Marking



Electrical Connection

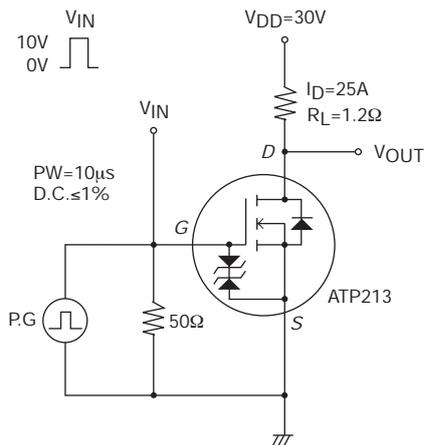


ATP213

Electrical Characteristics at Ta=25°C

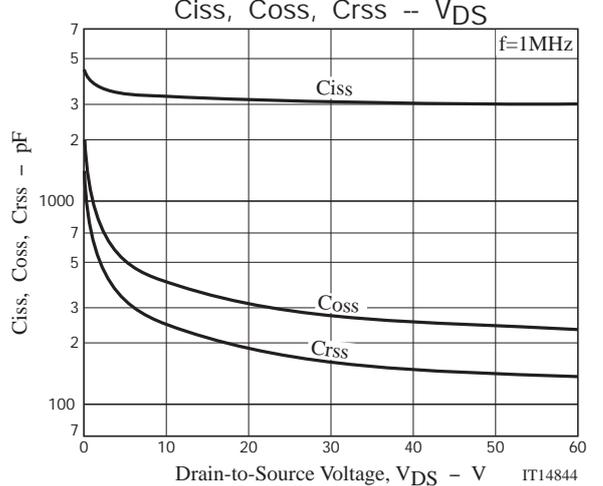
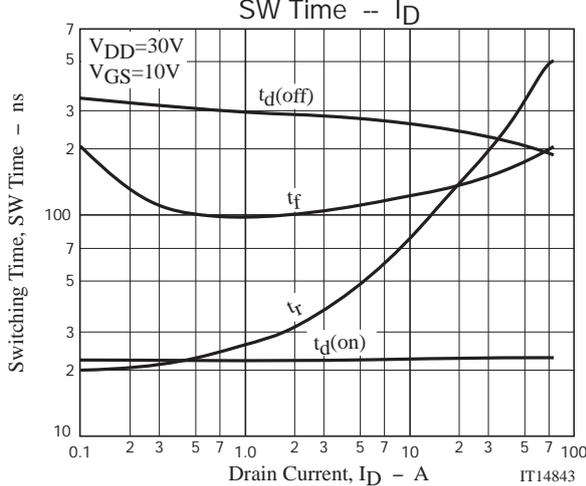
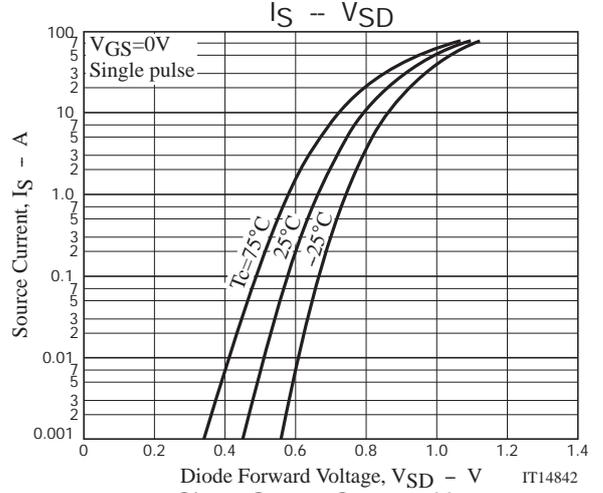
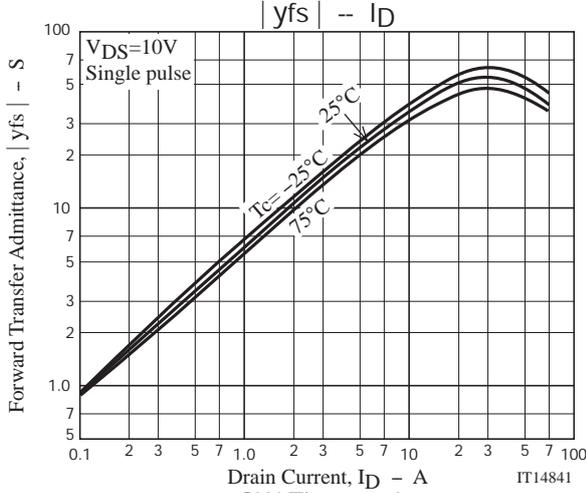
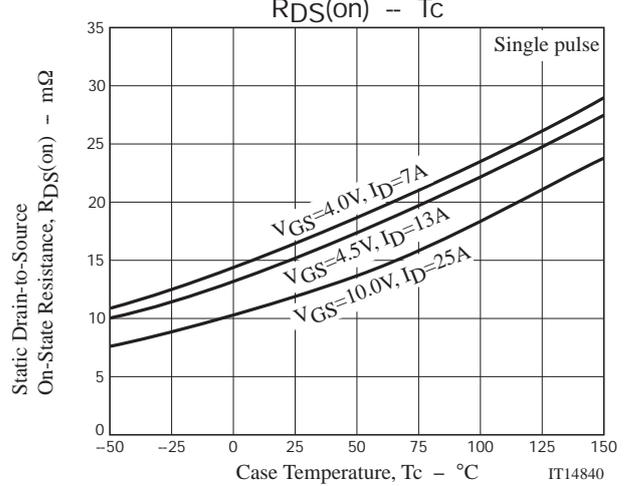
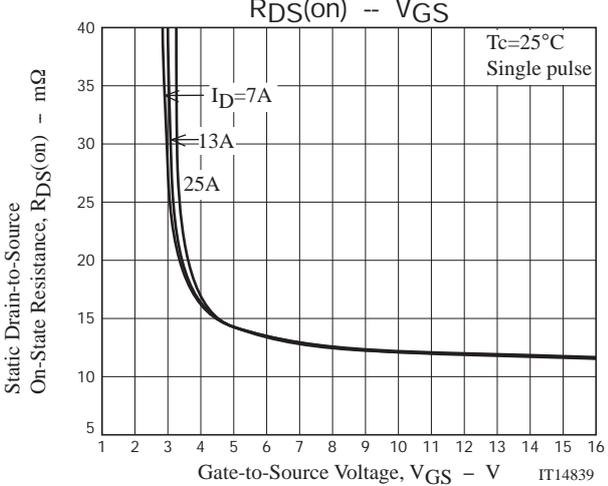
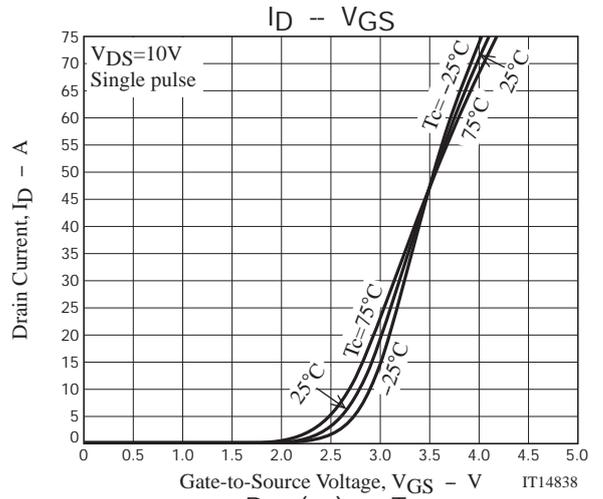
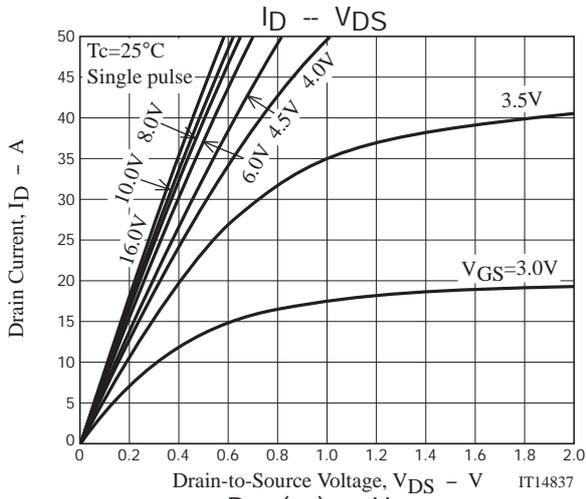
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	I _D =1mA, V _{GS} =0V	60			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =60V, V _{GS} =0V			1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±16V, V _{DS} =0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =10V, I _D =1mA	1.2		2.6	V
Forward Transfer Admittance	y _{fs}	V _{DS} =10V, I _D =25A		55		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =25A, V _{GS} =10V		12	16	mΩ
	R _{DS(on)2}	I _D =13A, V _{GS} =4.5V		15	21	mΩ
	R _{DS(on)3}	I _D =7A, V _{GS} =4V		17	26	mΩ
Input Capacitance	C _{iss}	V _{DS} =20V, f=1MHz		3150		pF
Output Capacitance	C _{oss}			310		pF
Reverse Transfer Capacitance	C _{rss}			190		pF
Turn-ON Delay Time	t _{d(on)}		See specified Test Circuit.		23	
Rise Time	t _r			170		ns
Turn-OFF Delay Time	t _{d(off)}			230		ns
Fall Time	t _f			150		ns
Total Gate Charge	Q _g	V _{DS} =30V, V _{GS} =10V, I _D =50A			58	
Gate-to-Source Charge	Q _{gs}			10.5		nC
Gate-to-Drain "Miller" Charge	Q _{gd}			12.5		nC
Diode Forward Voltage	V _{SD}	I _S =50A, V _{GS} =0V		1.01	1.2	V

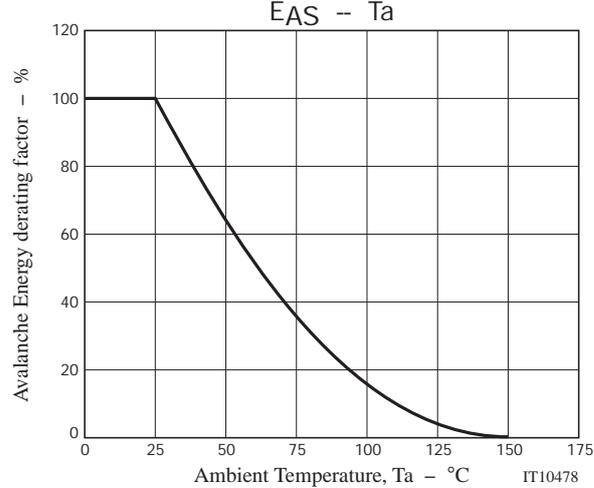
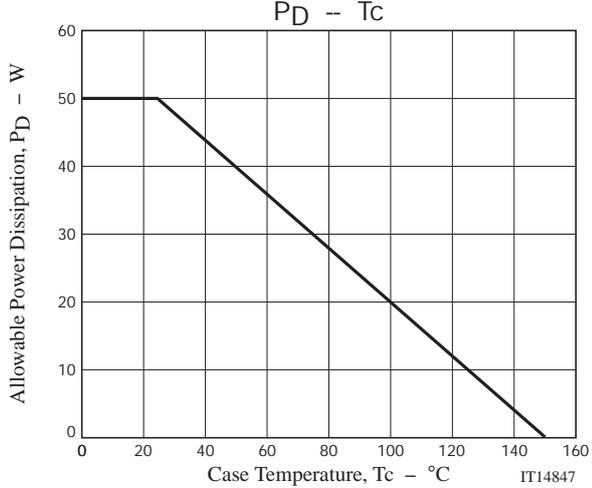
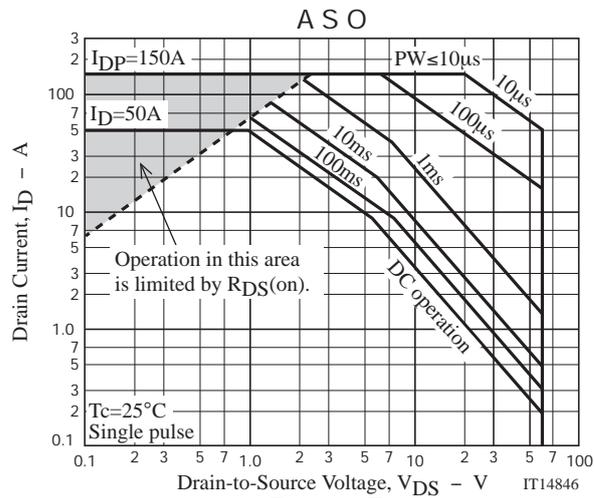
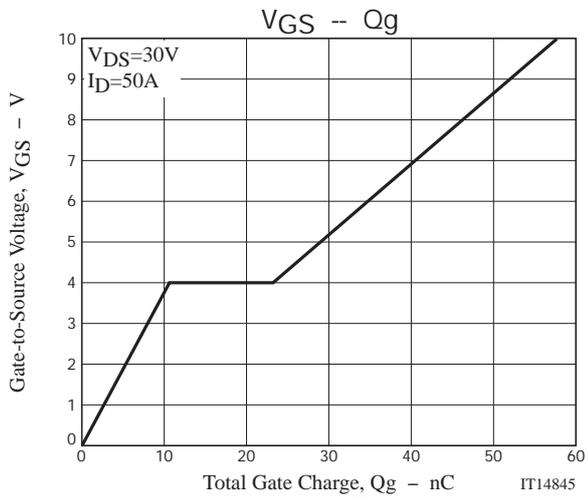
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
ATP213-TL-H	ATPAK	3,000pcs./reel	Pb Free and Halogen Free





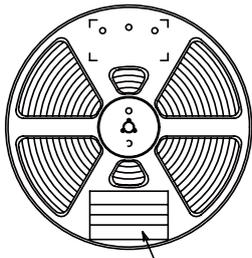
Taping Specification

ATP213-TL-H

1. Packing Format (TL)

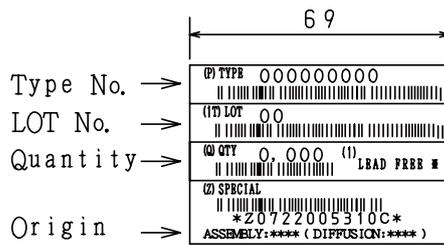
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	INNER BOX SD-C-18	OUTER BOX SD-A-18
ATPAK	ATP	3,000	3,000	15,000	1 reels contained Dimensions:mm (external) 340×340×28	5 inner boxes contained Dimensions:mm (external) 355×355×165

Packing method



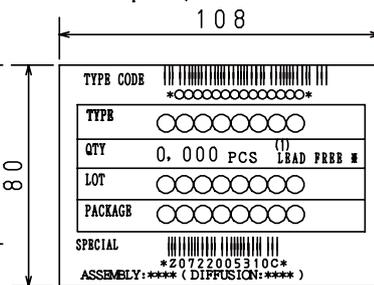
Reel label

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.



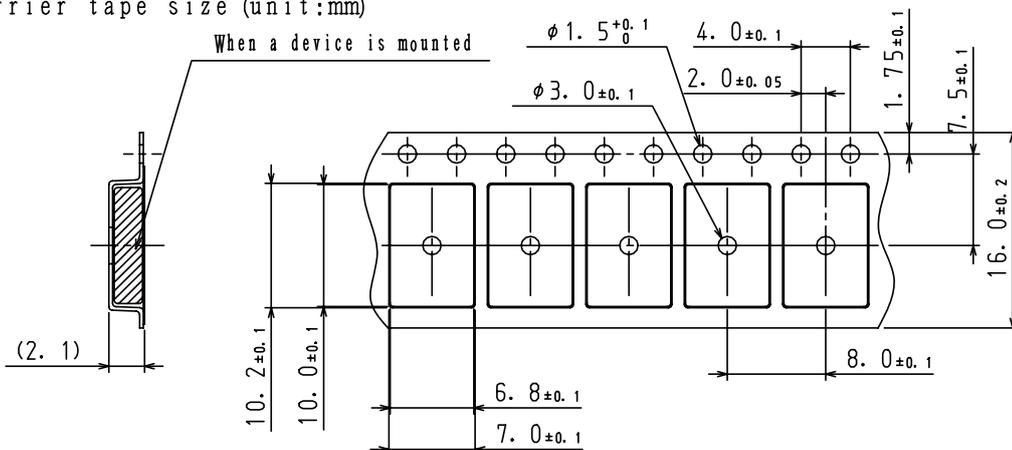
NOTE (1)

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

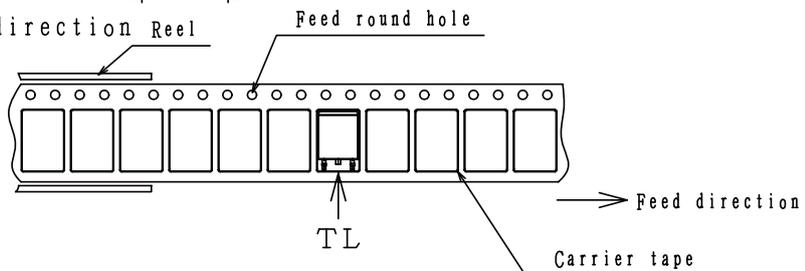
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



2-2. Device placement direction Reel

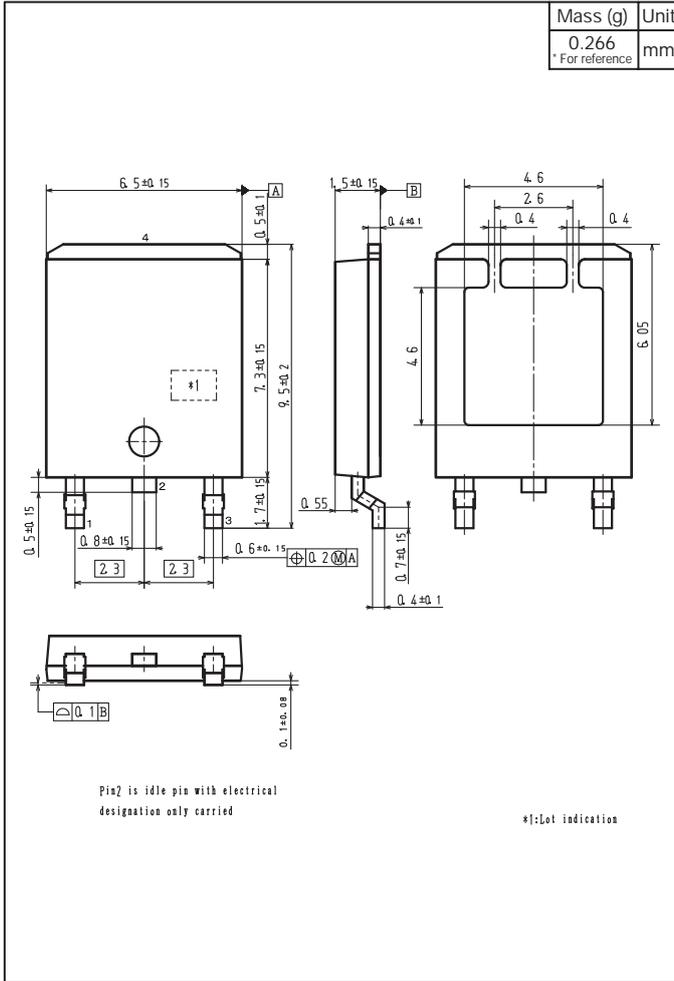


The one electrode terminals on feed hole side...TL

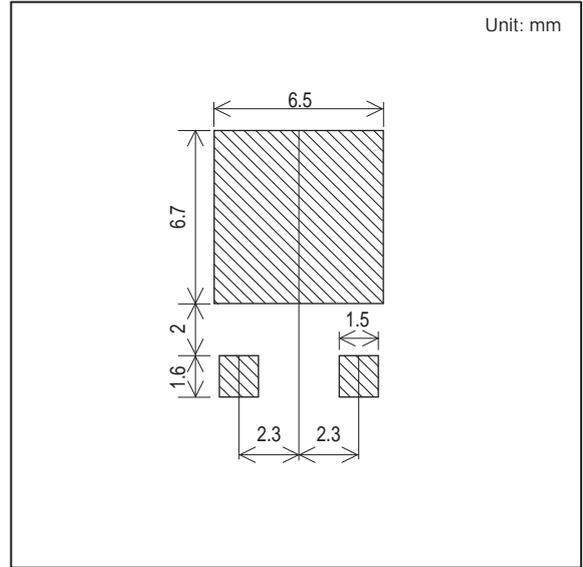
ATP213

Outline Drawing

ATP213-TL-H



Land Pattern Example



Note on usage : Since the ATP213 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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