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ATP206

N-Channel Power MOSFET 40V, 40A, 16mΩ, Single ATPAK

Features

- Low ON-resistance
- 4.5V 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}		40	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		40	A
Drain Current (PW≤10μs)	I _{DP}	PW≤10μs, duty cycle≤1%	120	A
Allowable Power Dissipation	P _D	T _c =25°C	40	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C
Avalanche Energy (Single Pulse) *1	E _{AS}		26	mJ
Avalanche Current *2	I _{AV}		20	A

Note : *1 V_{DD}=10V, L=100μH, I_{AV}=20A

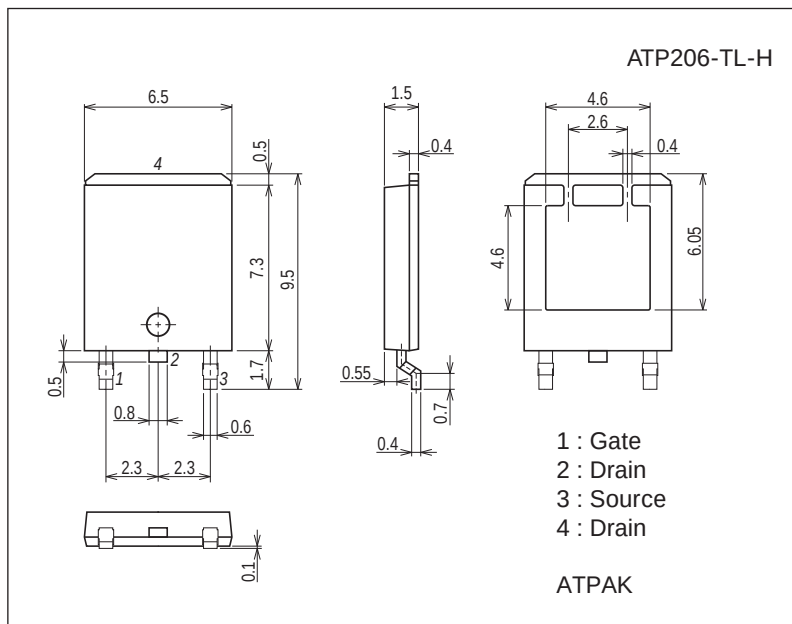
*2 L≤100μH, Single pulse

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Package Dimensions

unit : mm (typ)

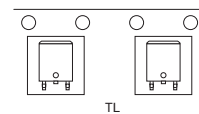
7057-001



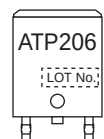
Product & Package Information

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

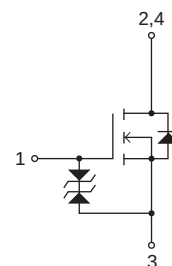
Packing Type: TL



Marking



Electrical Connection

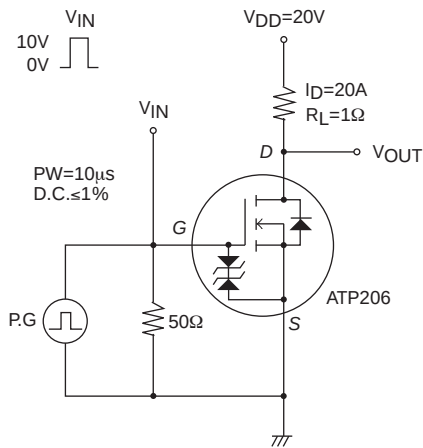


ATP206

Electrical Characteristics at Ta=25°C

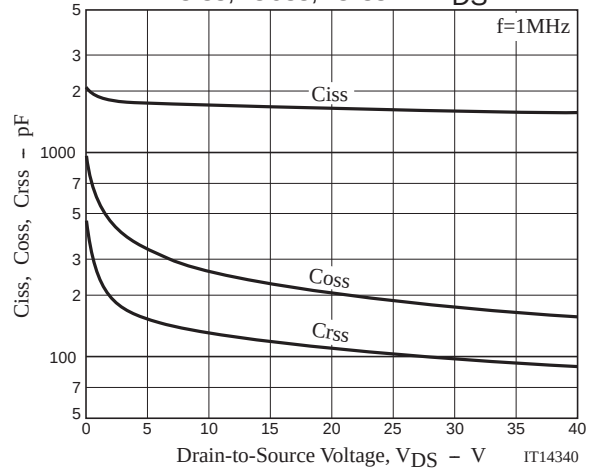
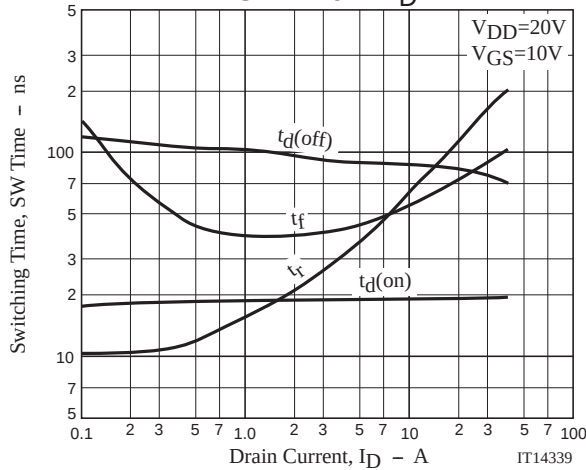
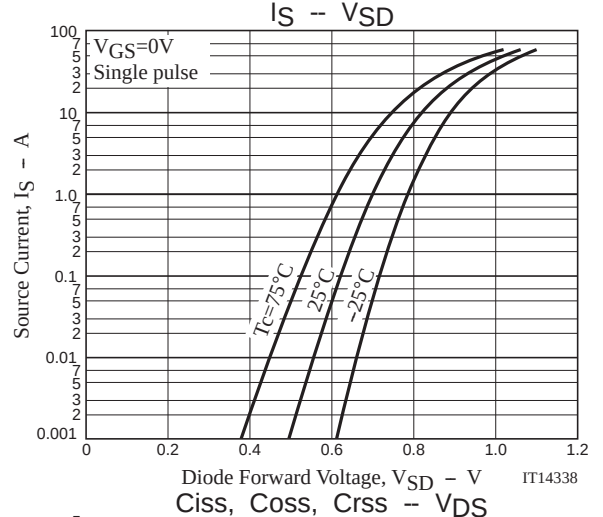
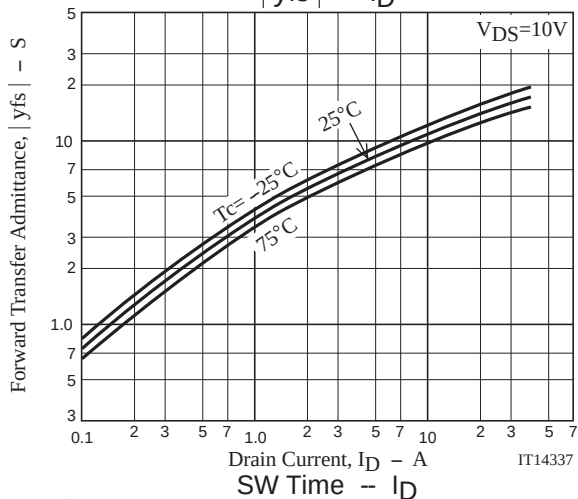
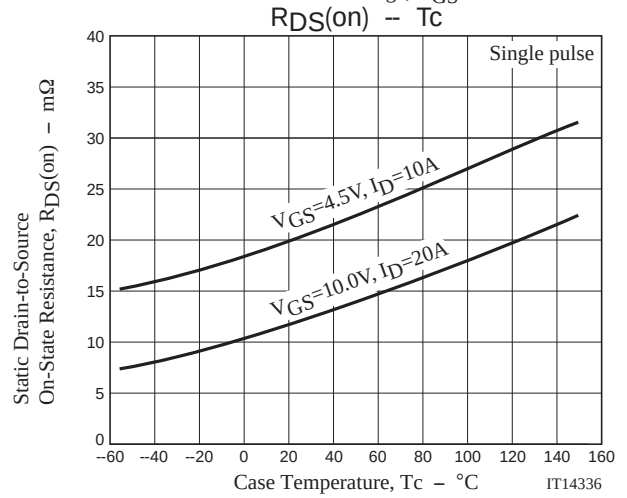
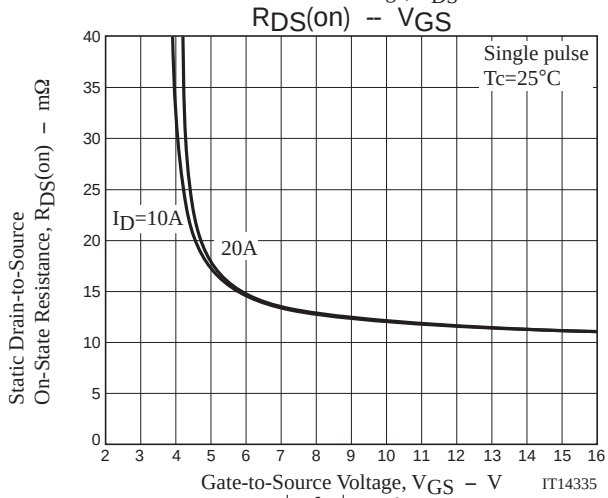
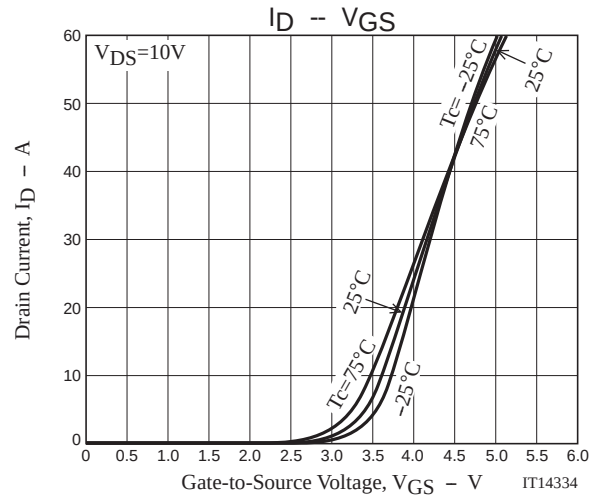
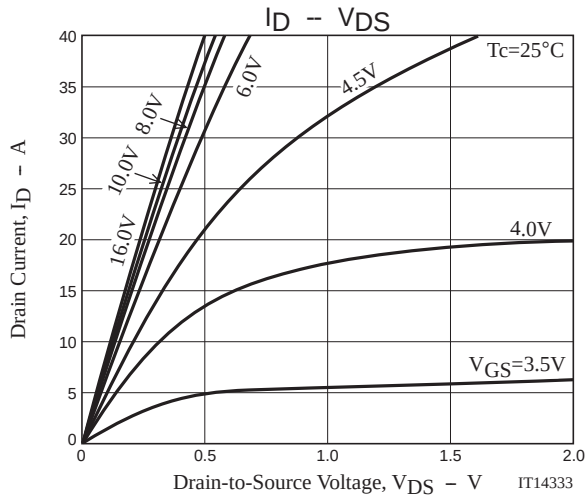
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0V	40			V
Zero-Gate Voltage Drain Current	IDSS	VDS=40V, VGS=0V			1	μA
Gate-to-Source Leakage Current	IGSS	VGS=±16V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=10V, ID=1mA	1.5		2.6	V
Forward Transfer Admittance	yfs	VDS=10V, ID=20A	9	15		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=20A, VGS=10V		12	16	mΩ
	RDS(on)2	ID=10A, VGS=4.5V		20	28	mΩ
Input Capacitance	Ciss	VDS=20V, f=1MHz		1630		pF
Output Capacitance	Coss			205		pF
Reverse Transfer Capacitance	Crss			110		pF
Turn-ON Delay Time	td(on)	See specified Test Circuit.		19		ns
Rise Time	tr			110		ns
Turn-OFF Delay Time	td(off)			83		ns
Fall Time	tf			73		ns
Total Gate Charge	Qg	VDS=20V, VGS=10V, ID=40A		27		nC
Gate-to-Source Charge	Qgs			7.0		nC
Gate-to-Drain "Miller" Charge	Qgd			5.2		nC
Diode Forward Voltage	VSD	IS=40A, VGS=0V		0.99	1.2	V

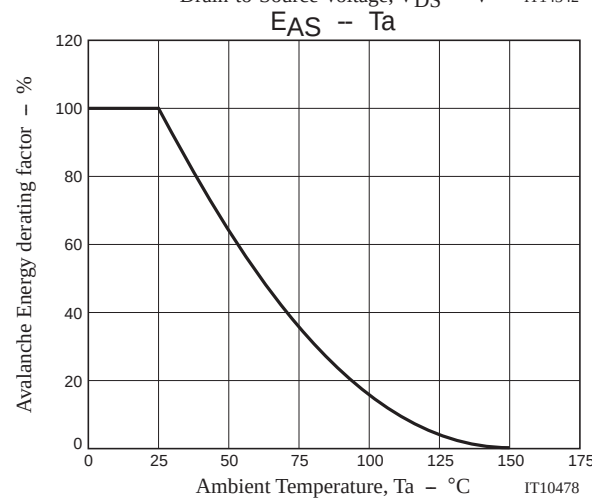
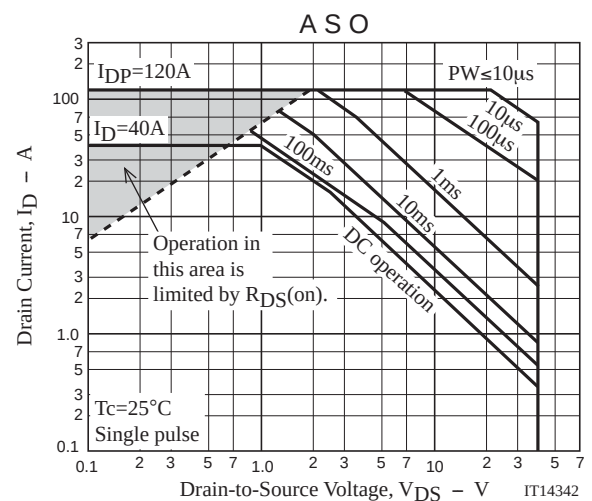
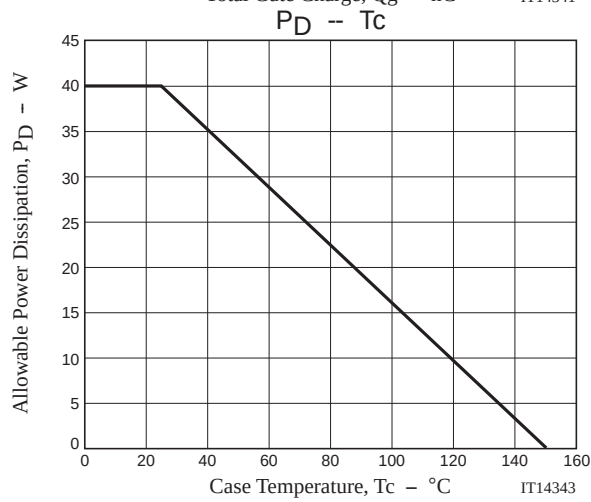
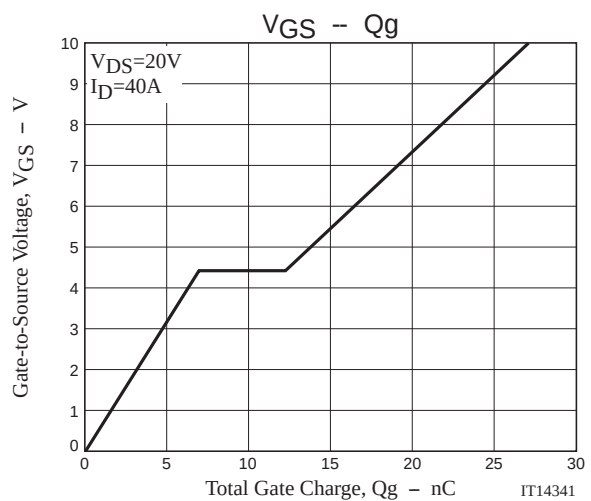
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
ATP206-TL-H	ATPAK	3,000pcs./reel	Pb Free and Halogen Free





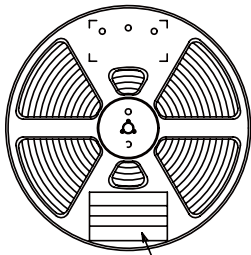
Taping Specification

ATP206-TL-H

1. Packing Format (TL)

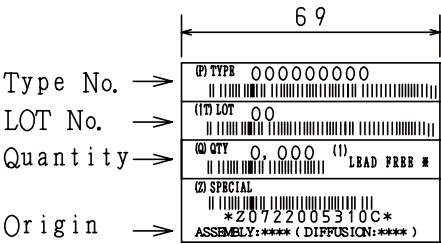
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	INNER BOX SD-C-18	OUTER BOX SD-A-18
ATPAK	ATP	3,000	3,000	15,000	1 reels contained Dimensions:mm (external) 340×340×28	5 inner boxes contained Dimensions:mm (external) 355×355×165

Packing method



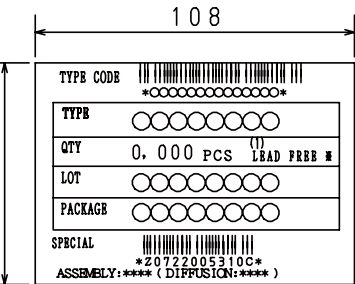
Reel label

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.



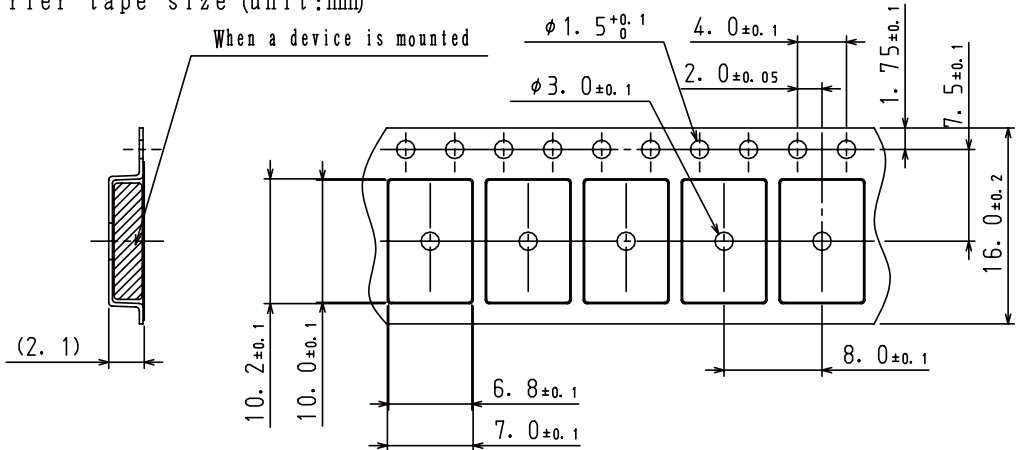
NOTE (1)

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

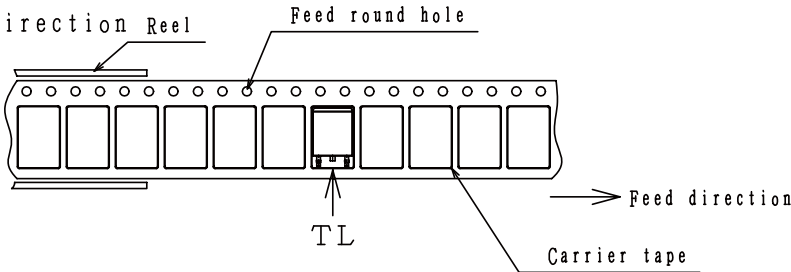
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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

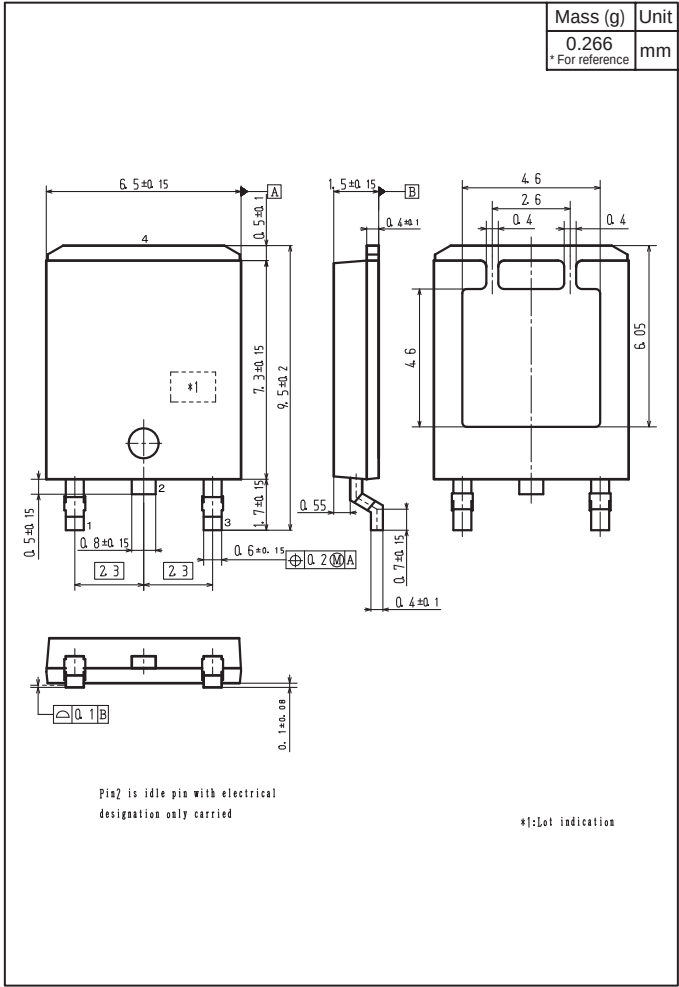


2-2. Device placement direction Reel

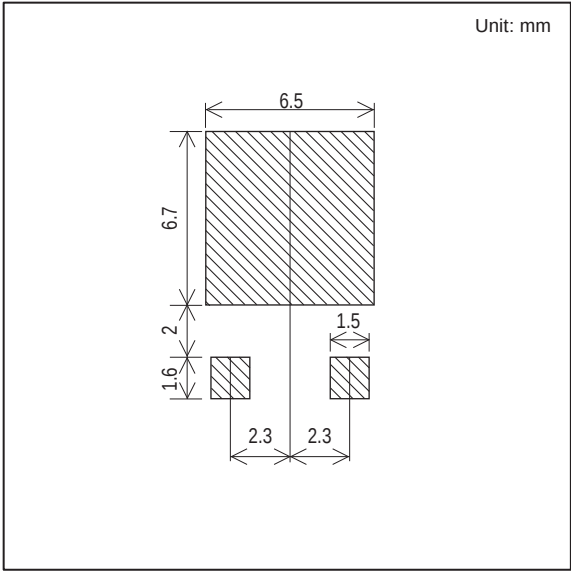


The one electrode terminals on feed hole side...TL

Outline Drawing
ATP206-TL-H



Land Pattern Example



Note on usage : Since the ATP206 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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