



ATP203

N-Channel Power MOSFET 30V, 75A, 8.2mΩ, Single ATPAK

ON Semiconductor®

<http://onsemi.com>

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}		30	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		75	A
Drain Current (PW≤10μs)	I _{DP}	PW≤10μs, duty cycle≤1%	225	A
Allowable Power Dissipation	P _D	T _c =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}		52	mJ
Avalanche Current *2	I _{AV}		38	A

Note : *1 V_{DD}=10V, L=50μH, I_{AV}=38A

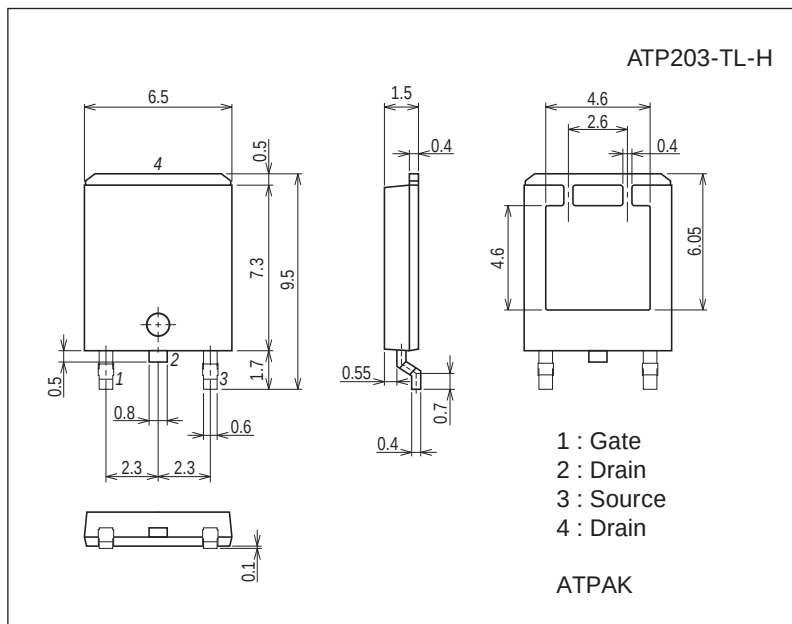
*2 L≤50μH, Single pulse

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)

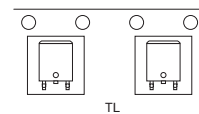
7057-001



Product & Package Information

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

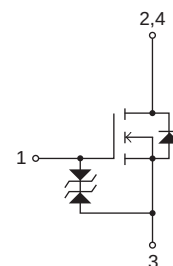
Packing Type: TL



Marking



Electrical Connection

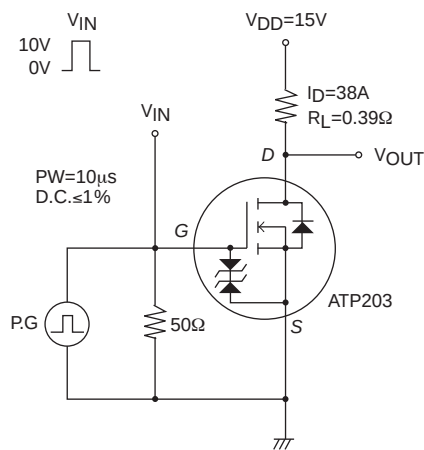


ATP203

Electrical Characteristics at Ta=25°C

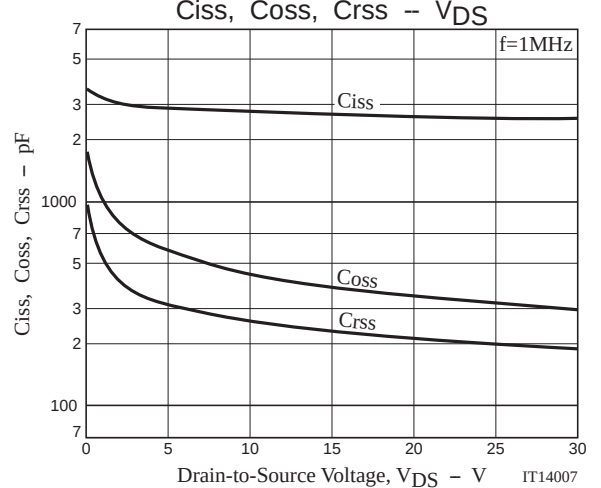
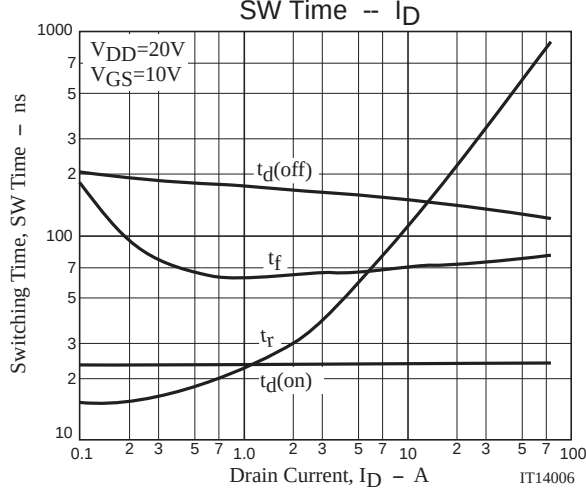
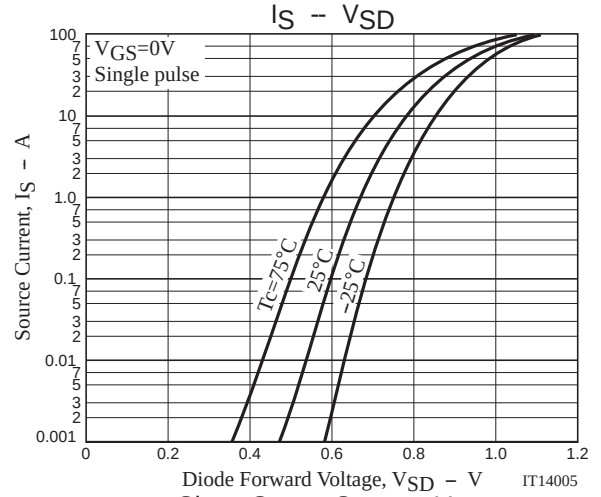
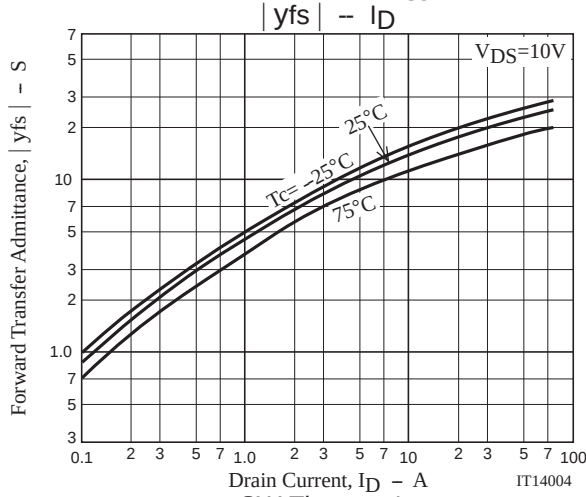
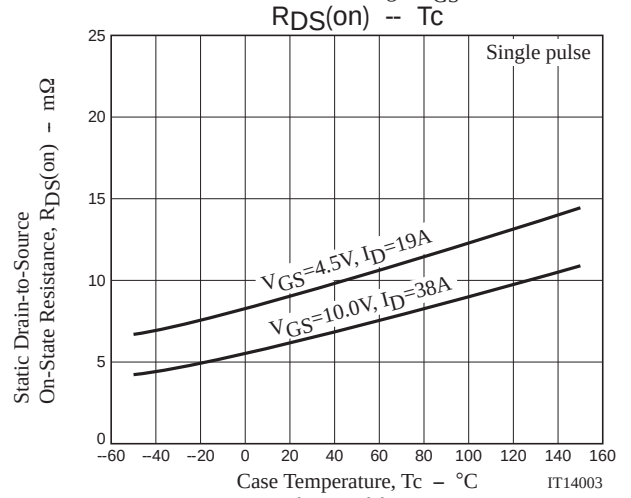
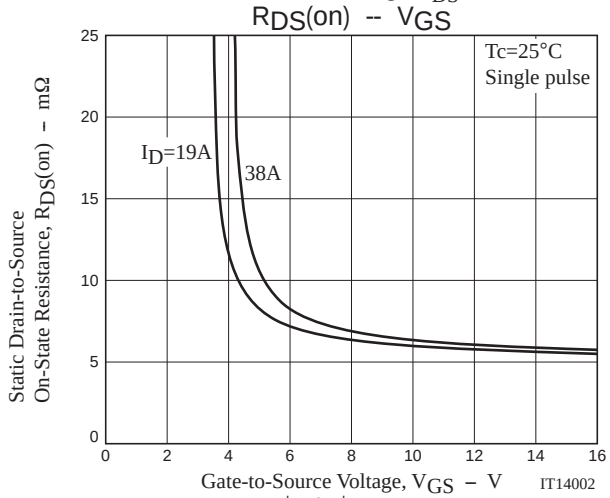
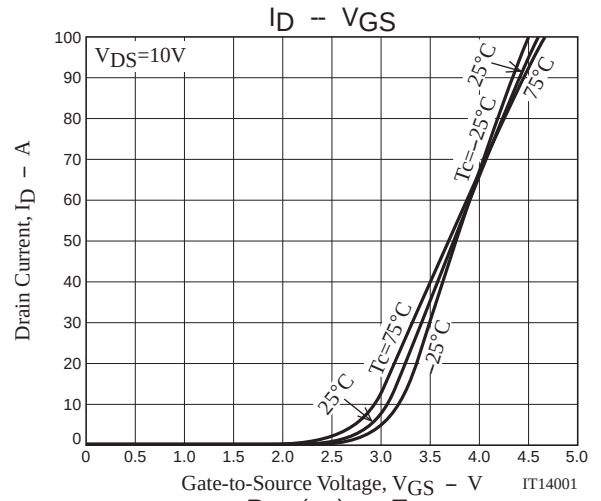
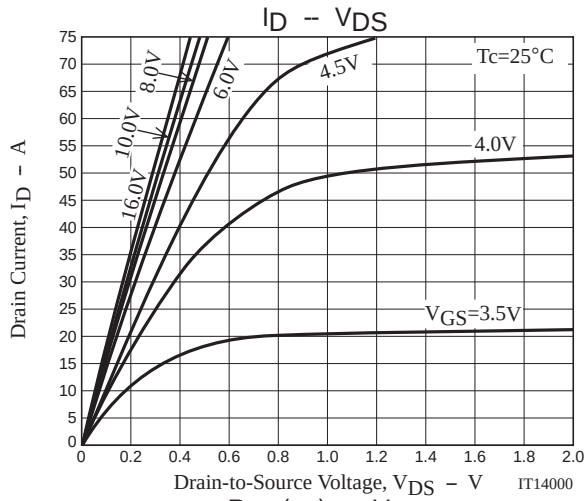
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0V	30			V
Zero-Gate Voltage Drain Current	IDSS	VDS=30V, VGS=0V			1	μA
Gate-to-Source Leakage Current	IGSS	VGS=±16V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=10V, ID=1mA	1.2		2.6	V
Forward Transfer Admittance	yfs	VDS=10V, ID=38A	13	22		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=38A, VGS=10V		6.3	8.2	mΩ
	RDS(on)2	ID=19A, VGS=4.5V		9.5	13.5	mΩ
Input Capacitance	Ciss	VDS=10V, f=1MHz		2750		pF
Output Capacitance	Coss			450		pF
Reverse Transfer Capacitance	Crss			265		pF
Turn-ON Delay Time	td(on)	See specified Test Circuit.		24		ns
Rise Time	tr			420		ns
Turn-OFF Delay Time	td(off)			130		ns
Fall Time	tf			75		ns
Total Gate Charge	Qg	VDS=15V, VGS=10V, ID=75A		44		nC
Gate-to-Source Charge	Qgs			14		nC
Gate-to-Drain "Miller" Charge	Qgd			5.6		nC
Diode Forward Voltage	VSD	IS=75A, VGS=0V		1.02	1.2	V

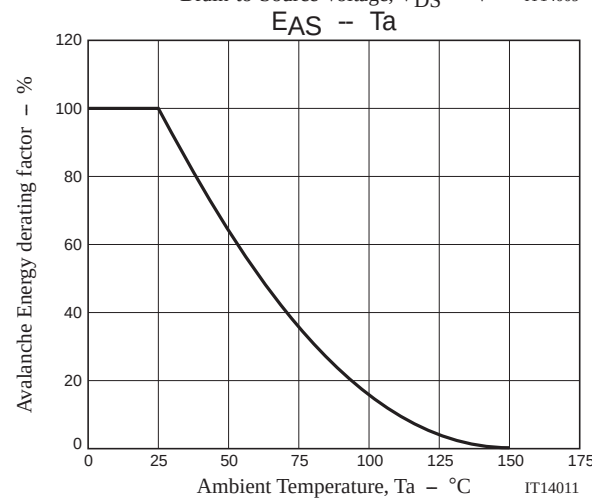
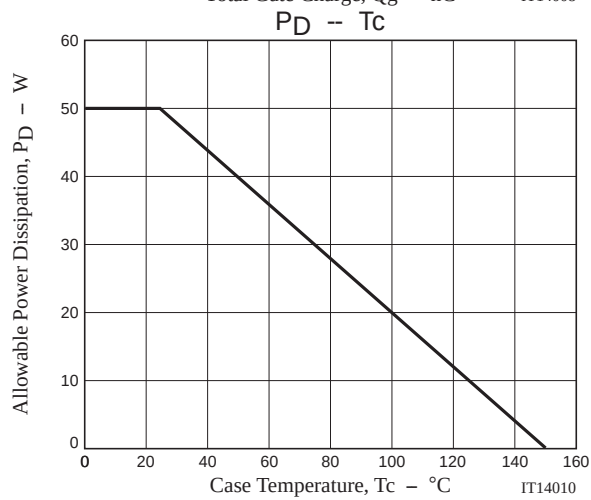
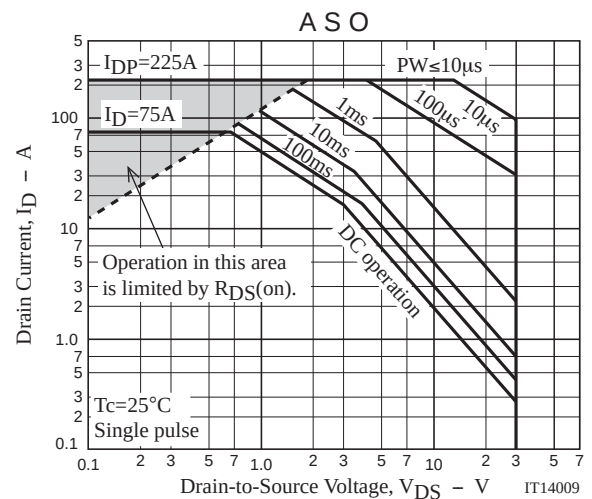
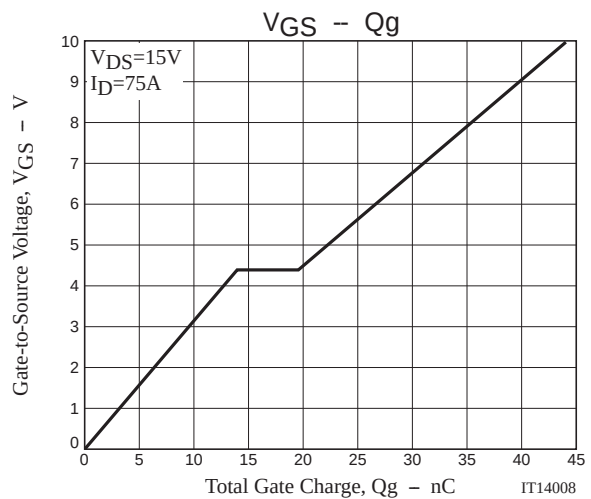
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
ATP203-TL-H	ATPAK	3,000pcs./reel	Pb Free and Halogen Free





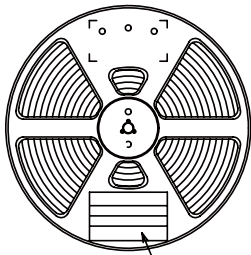
Taping Specification

ATP203-TL-H

1. Packing Format (TL)

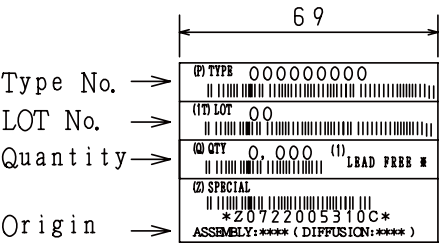
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	INNER BOX SD-C-18	OUTER BOX SD-A-18
ATPAK	ATP	3,000	3,000	15,000	1 reels contained Dimensions:mm (external) 340×340×28	5 inner boxes contained Dimensions:mm (external) 355×355×165

Packing method



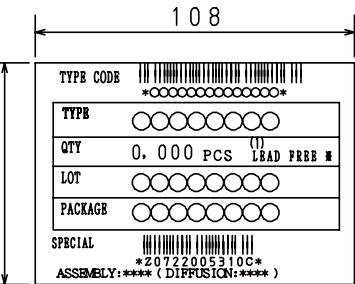
Reel label

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.



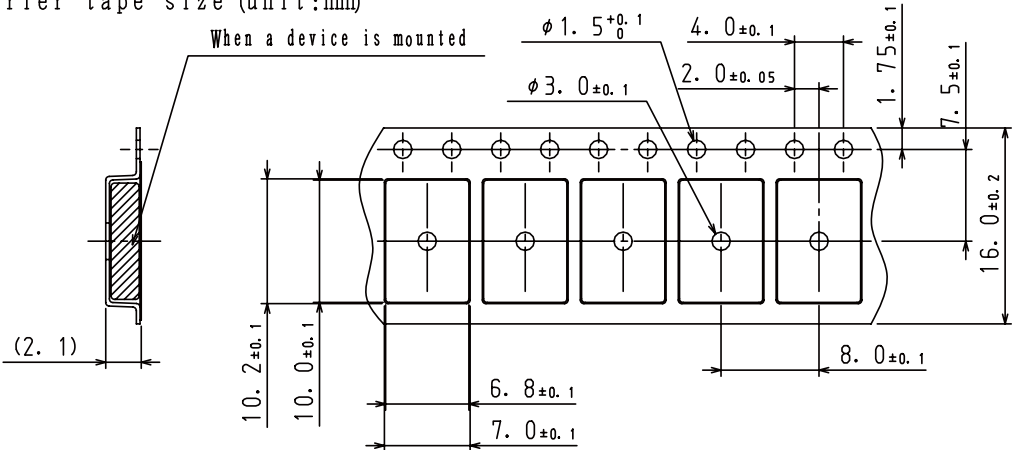
NOTE (1)

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

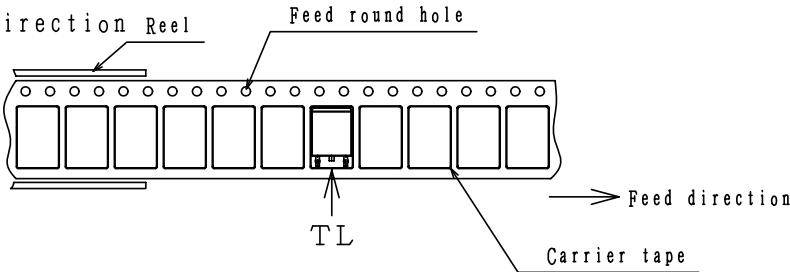
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



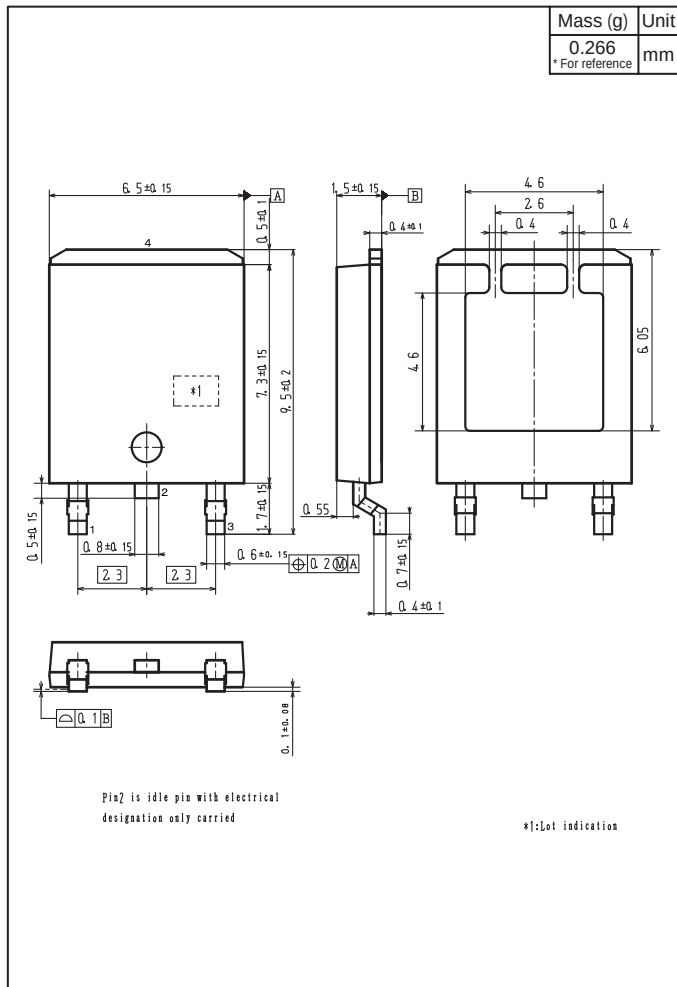
2-2. Device placement direction Reel



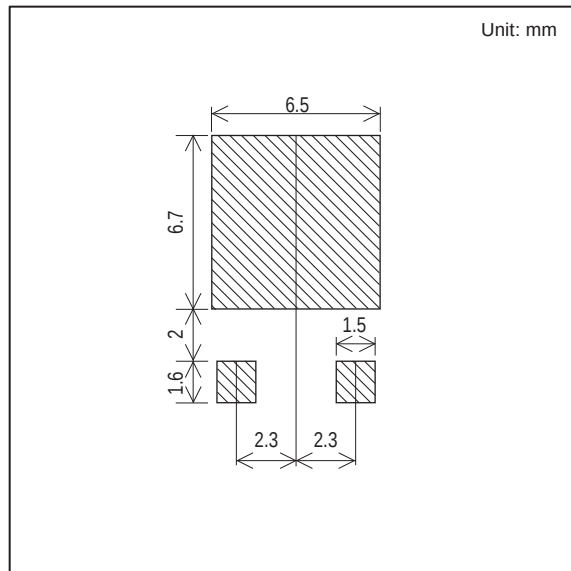
The one electrode terminals on feed hole side...TL

Outline Drawing

ATP203-TL-H



Land Pattern Example



Note on usage : Since the ATP203 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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