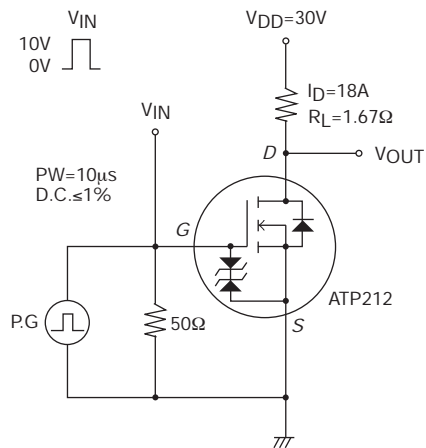


# ATP212

## Electrical Characteristics at Ta=25°C

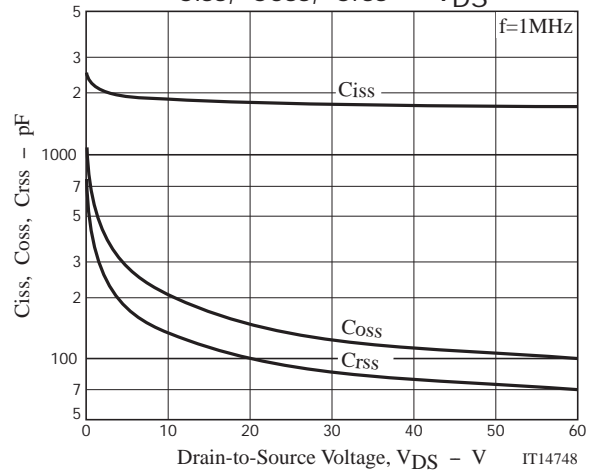
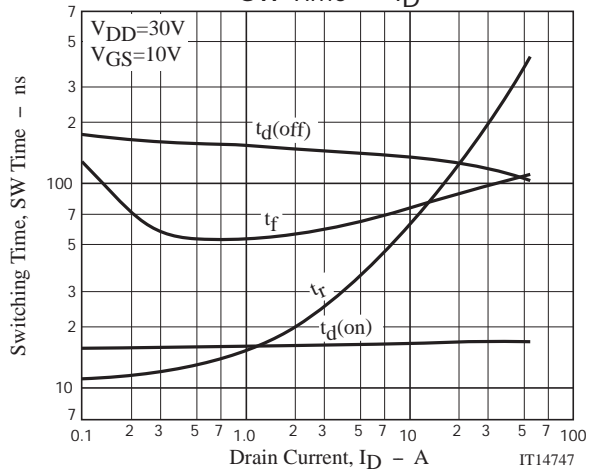
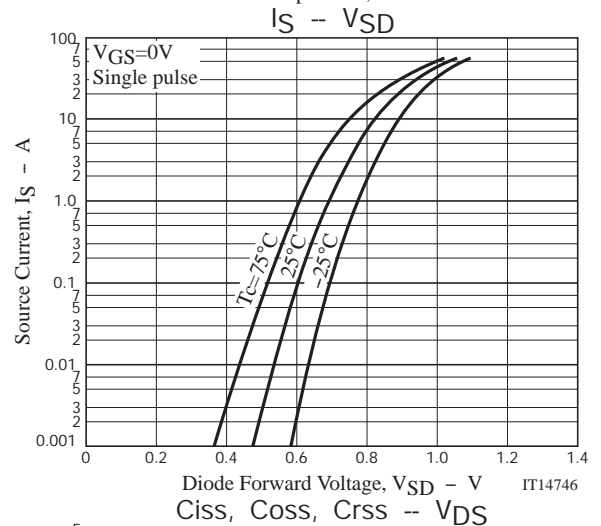
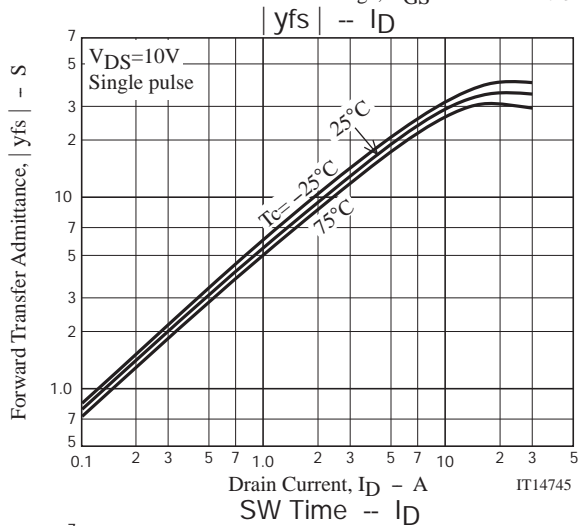
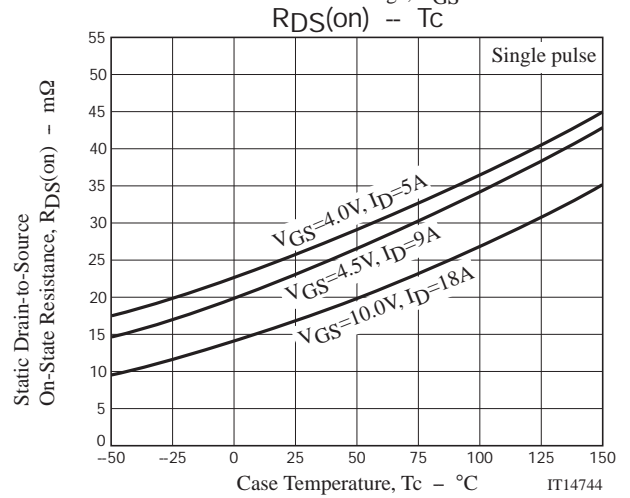
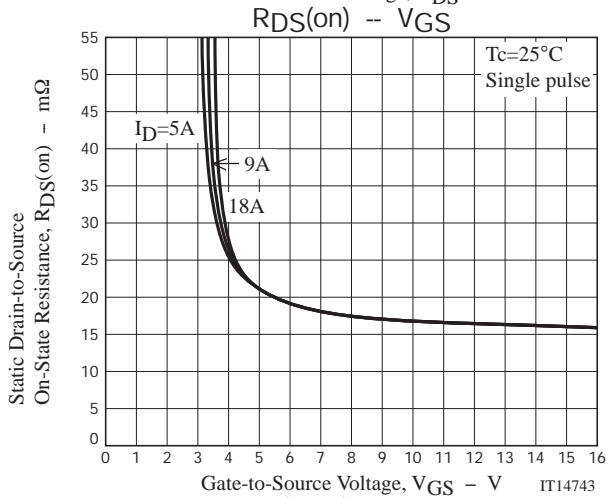
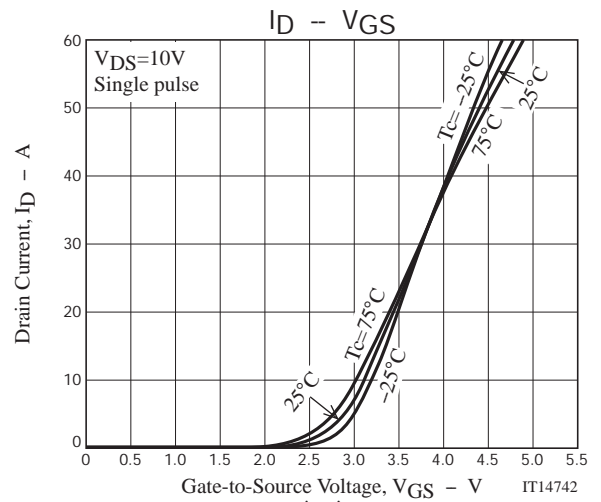
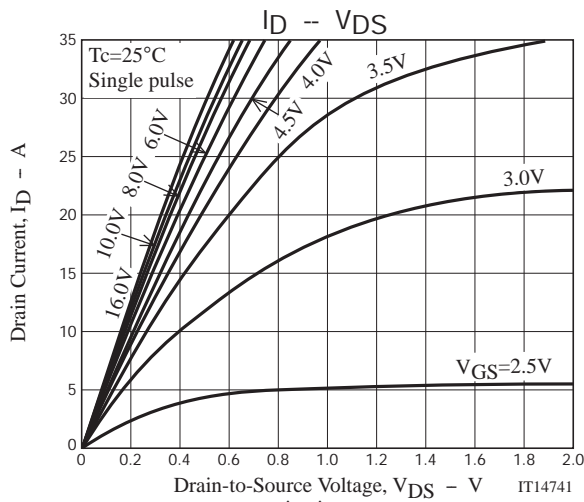
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0V$	60			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=60V, V_{GS}=0V$			1	$\mu A$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 16V, V_{DS}=0V$			$\pm 10$	$\mu A$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	1.2		2.6	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=18A$		35		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=18A, V_{GS}=10V$		17	23	$m\Omega$
	$R_{DS(on)2}$	$I_D=9A, V_{GS}=4.5V$		23	33	$m\Omega$
	$R_{DS(on)3}$	$I_D=5A, V_{GS}=4V$		25	37	$m\Omega$
Input Capacitance	$C_{iss}$	$V_{DS}=20V, f=1MHz$		1820		pF
Output Capacitance	$C_{oss}$			150		pF
Reverse Transfer Capacitance	$C_{rss}$			100		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		16		ns
Rise Time	$t_r$			110		ns
Turn-OFF Delay Time	$t_d(off)$			125		ns
Fall Time	$t_f$			87		ns
Total Gate Charge	$Q_g$	$V_{DS}=30V, V_{GS}=10V, I_D=35A$		34.5		nC
Gate-to-Source Charge	$Q_{gs}$			6.5		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$			6.8		nC
Diode Forward Voltage	$V_{SD}$	$I_S=35A, V_{GS}=0V$		0.96	1.2	V

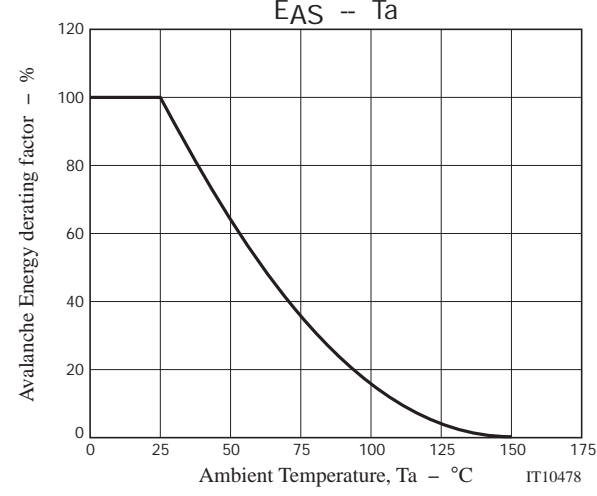
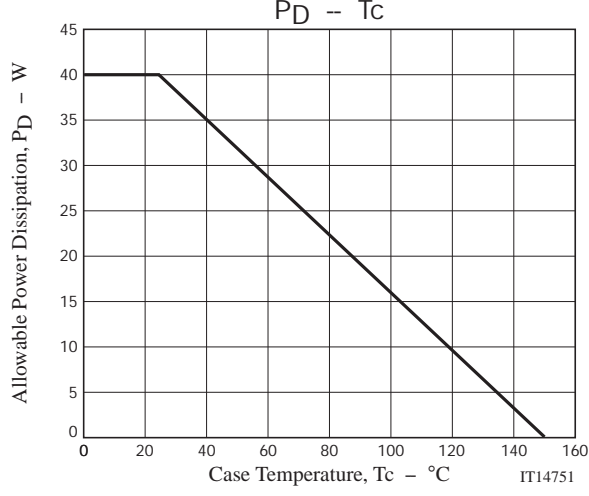
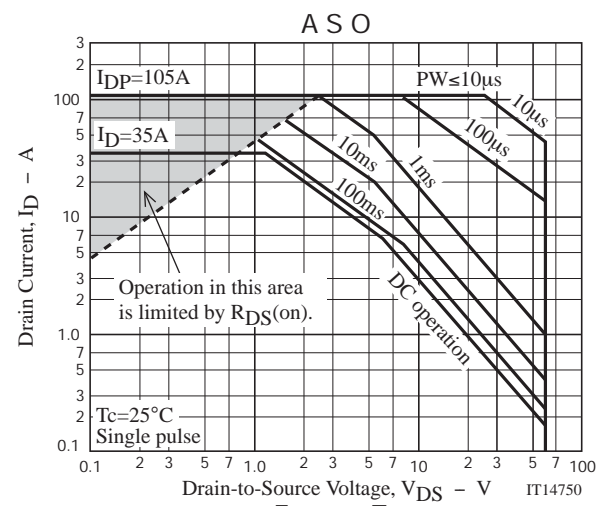
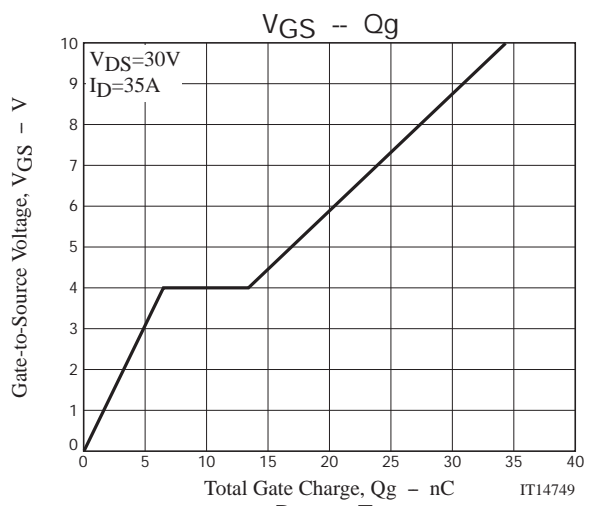
## Switching Time Test Circuit



## Ordering Information

Device	Package	Shipping	memo
ATP212-TL-H	ATPAK	3,000pcs./reel	Pb Free and Halogen Free



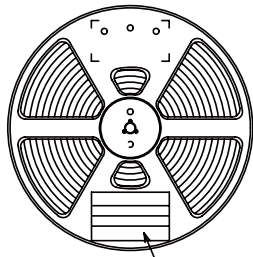


Taping Specification  
ATP212-TL-H

1. Packing Format (TL)

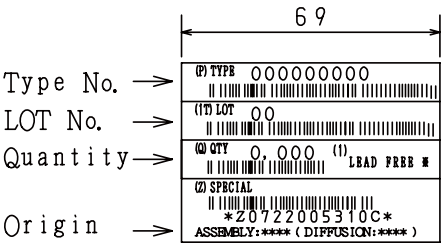
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	INNER BOX SD-C-18	OUTER BOX SD-A-18
ATPAK	ATP	3,000	3,000	15,000	1 reels contained Dimensions:mm (external) 340×340×28	5 inner boxes contained Dimensions:mm (external) 355×355×165

Packing method



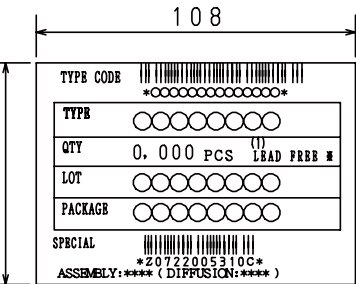
Reel label

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.

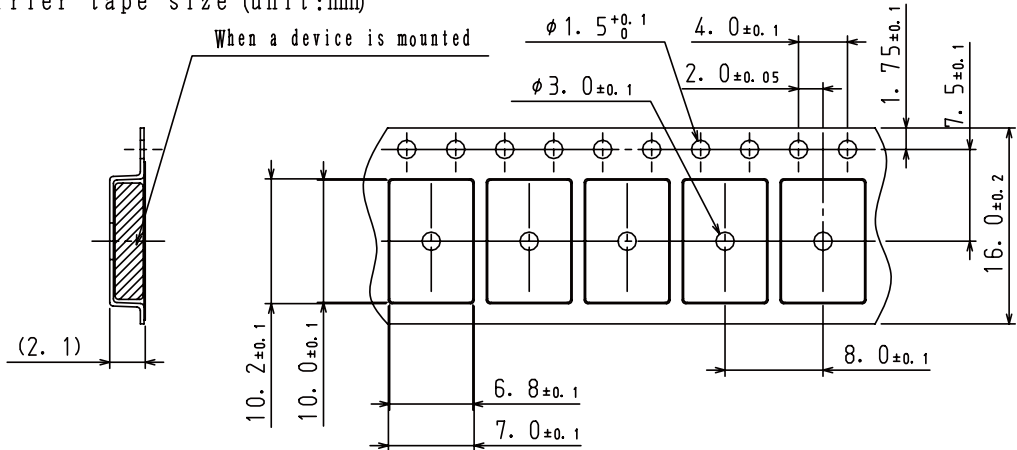


NOTE (1)  
The LEAD FREE \* description shows that the surface treatment of the terminal is lead free.

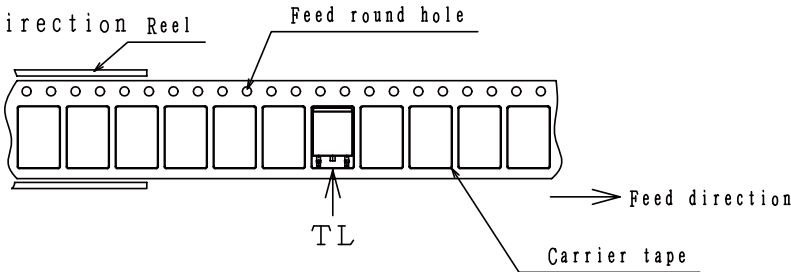
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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

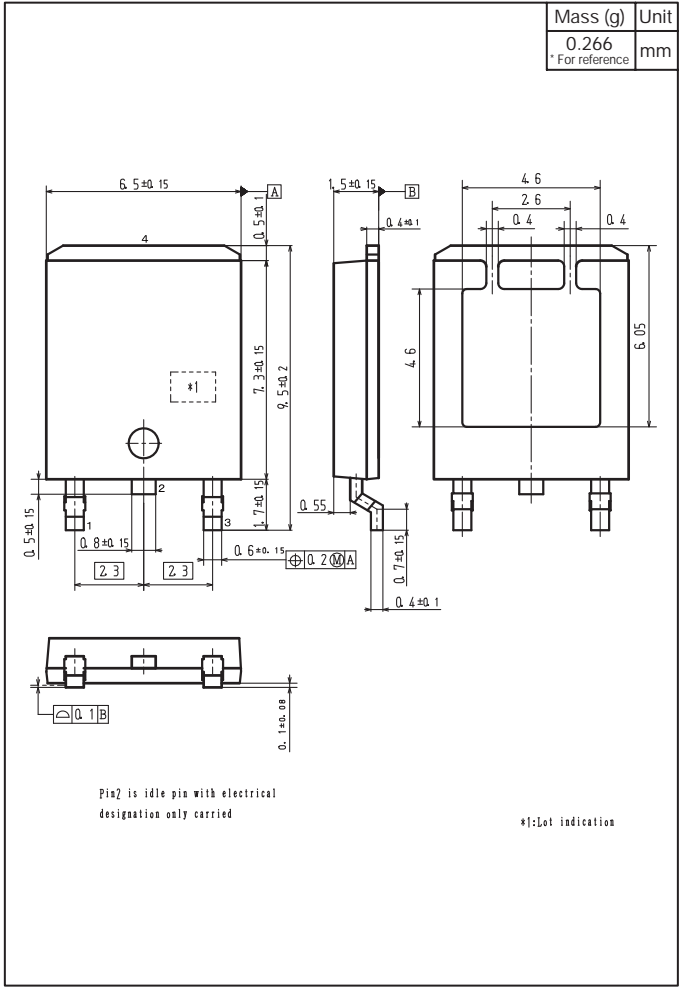


2-2. Device placement direction Reel

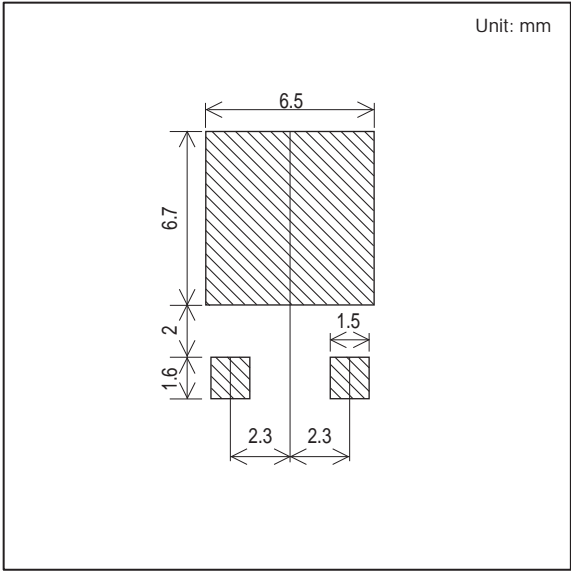


The one electrode terminals on feed hole side...TL

Outline Drawing  
ATP212-TL-H



Land Pattern Example



Note on usage : Since the ATP212 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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