



# ATP218

## N-Channel Power MOSFET 30V, 100A, 3.8mΩ, Single ATPAK

**ON Semiconductor®**
<http://onsemi.com>

### Features

- ON-resistance  $R_{DS(on)1}=2.9m\Omega$ (typ.)
- 2.5V drive
- Protection diode in
- Input Capacitance  $C_{iss}=6600pF$ (typ.)
- Halogen free compliance

### Specifications

**Absolute Maximum Ratings at  $T_a=25^\circ C$** 

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSS}$		30	V
Gate-to-Source Voltage	$V_{GSS}$		$\pm 10$	V
Drain Current (DC)	$I_D$		100	A
Drain Current ( $PW \leq 10\mu s$ )	$I_{DP}$	$PW \leq 10\mu s$ , duty cycle $\leq 1\%$	300	A
Allowable Power Dissipation	$P_D$	$T_c=25^\circ C$	60	W
Channel Temperature	$T_{ch}$		150	$^\circ C$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ C$
Avalanche Energy (Single Pulse) *1	$E_{AS}$		235	mJ
Avalanche Current *2	$I_{AV}$		50	A

 Note : \*1  $V_{DD}=15V$ ,  $L=100\mu H$ ,  $I_{AV}=50A$ 

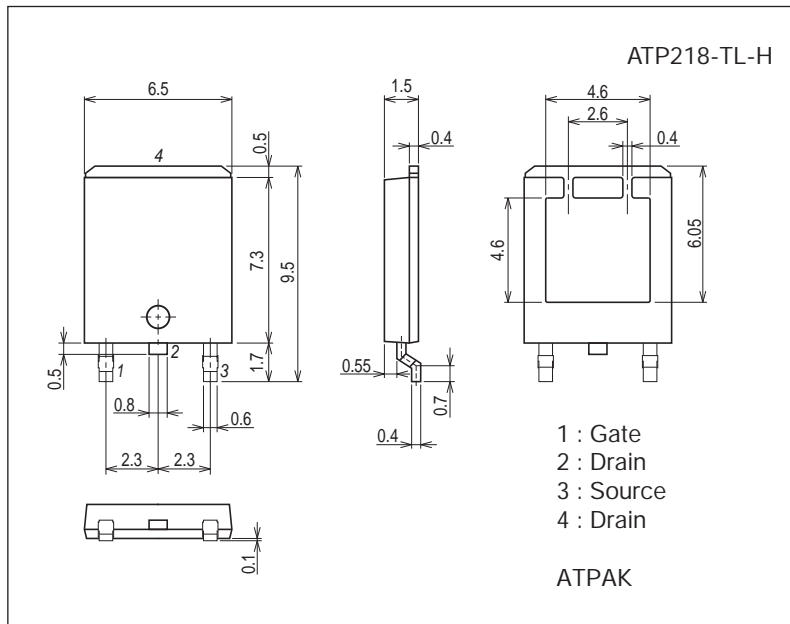
 \*2  $L \leq 100\mu H$ , Single pulse

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)

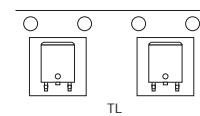
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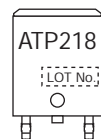
### Product & Package Information

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

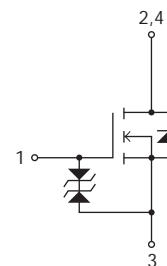
### Packing Type: TL



### Marking



### Electrical Connection

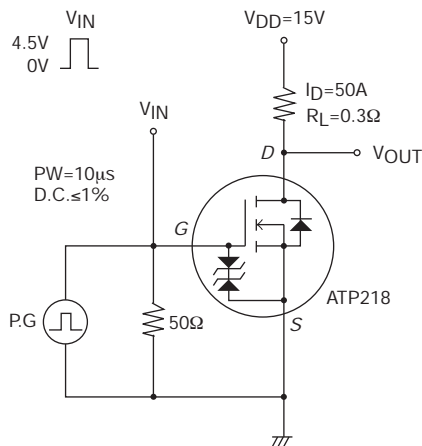


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## Electrical Characteristics at Ta=25°C

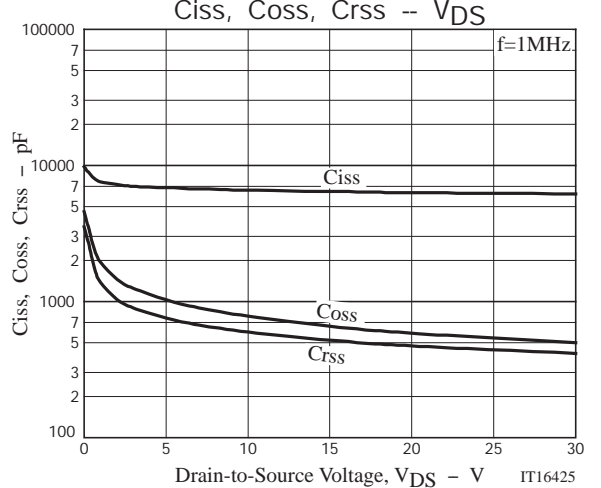
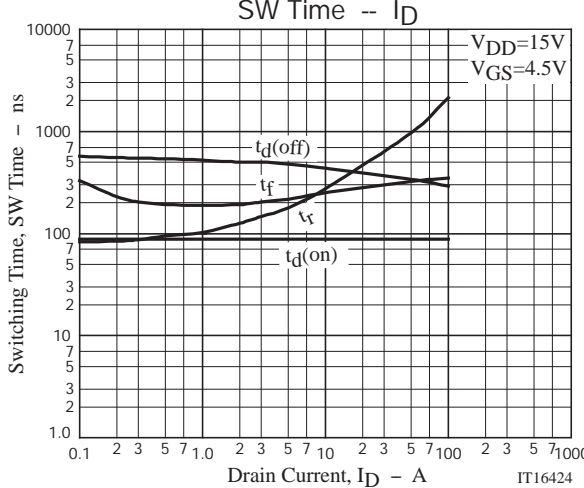
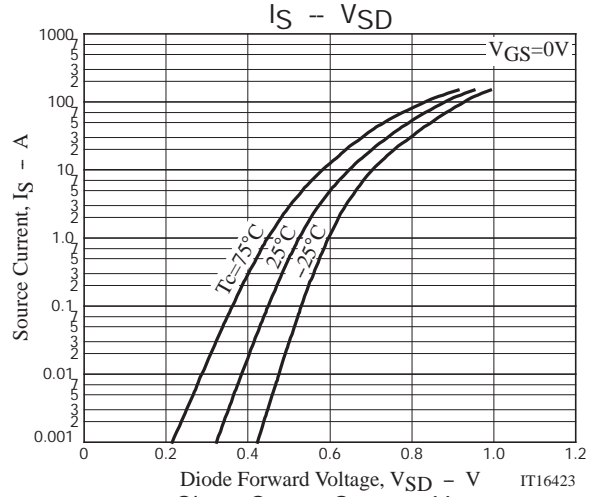
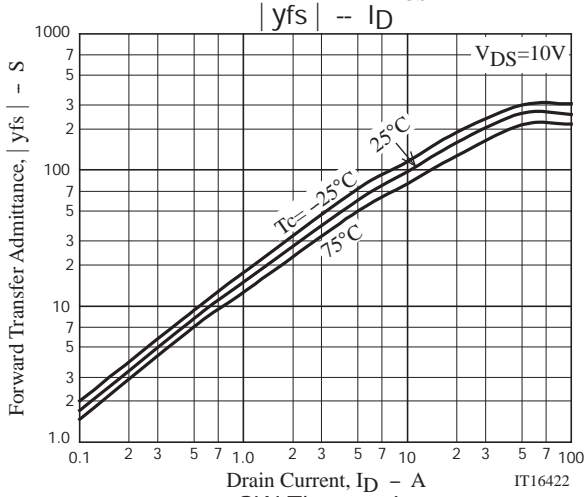
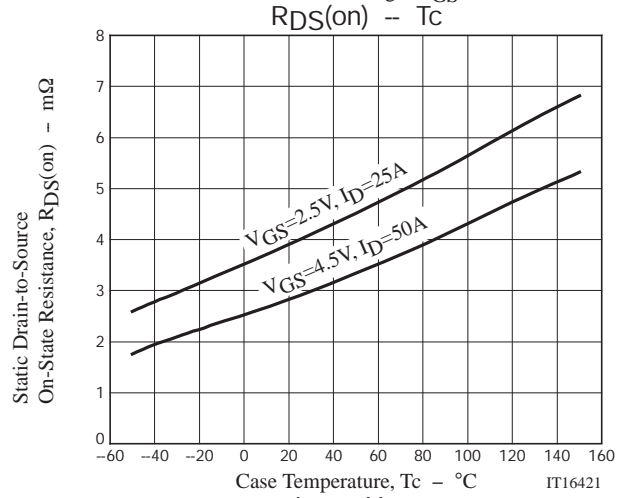
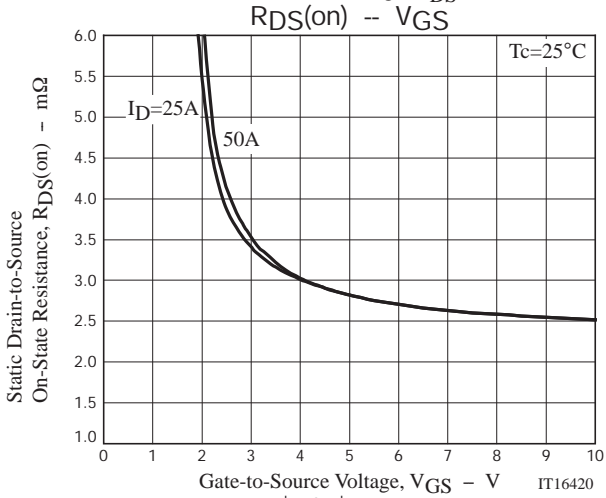
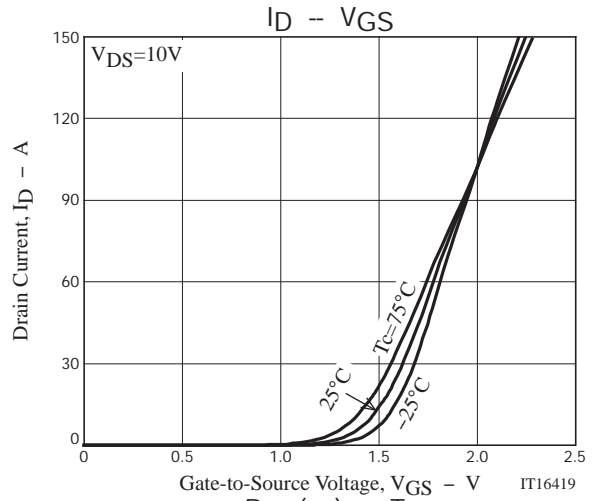
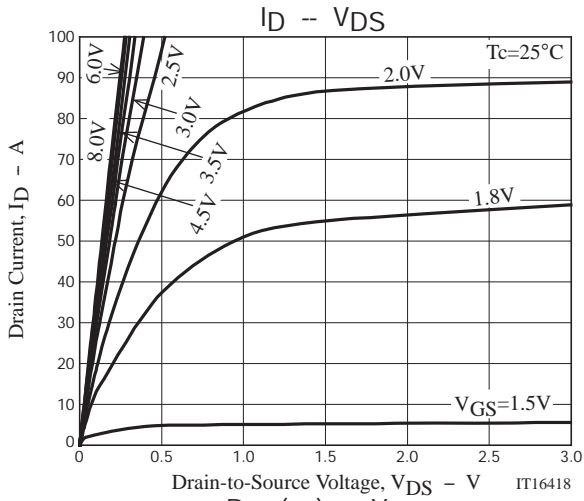
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0V$	30			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=30V, V_{GS}=0V$			1	$\mu A$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 8V, V_{DS}=0V$			$\pm 10$	$\mu A$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	0.5		1.3	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=50A$		260		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=50A, V_{GS}=4.5V$		2.9	3.8	$m\Omega$
	$R_{DS(on)2}$	$I_D=25A, V_{GS}=2.5V$		4.0	5.6	$m\Omega$
Input Capacitance	$C_{iss}$	$V_{DS}=10V, f=1MHz$		6600		pF
Output Capacitance	$C_{oss}$			780		pF
Reverse Transfer Capacitance	$C_{rss}$			600		pF
Turn-ON Delay Time	$t_{d(on)}$			88		ns
Rise Time	$t_r$	See specified Test Circuit.		960		ns
Turn-OFF Delay Time	$t_{d(off)}$			340		ns
Fall Time	$t_f$			320		ns
Total Gate Charge	$Q_g$	$V_{DS}=15V, V_{GS}=4.5V, I_D=100A$		70		nC
Gate-to-Source Charge	$Q_{gs}$			20		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$			14		nC
Diode Forward Voltage	$V_{SD}$	$I_S=100A, V_{GS}=0V$		0.91	1.2	V

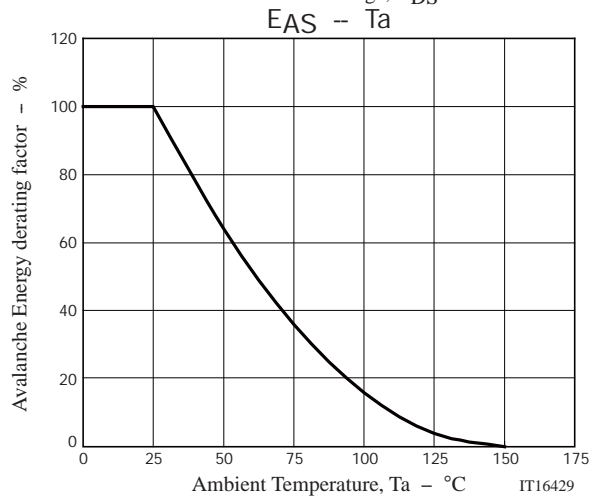
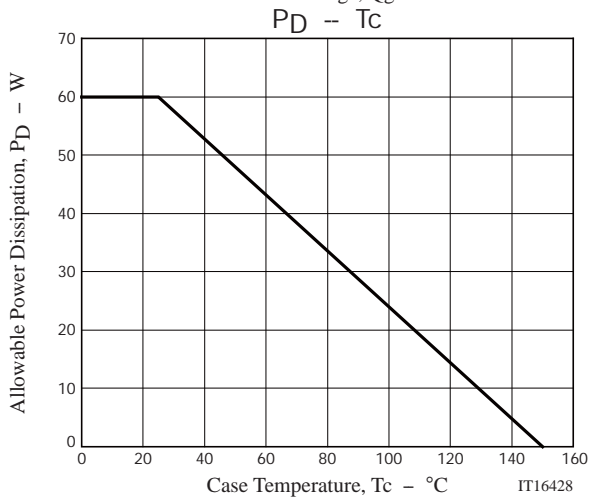
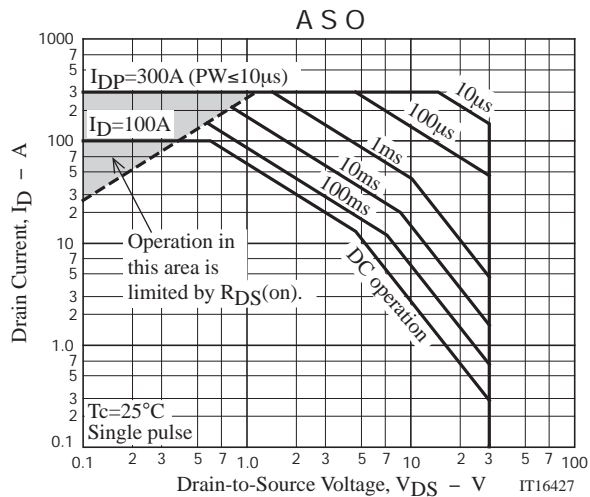
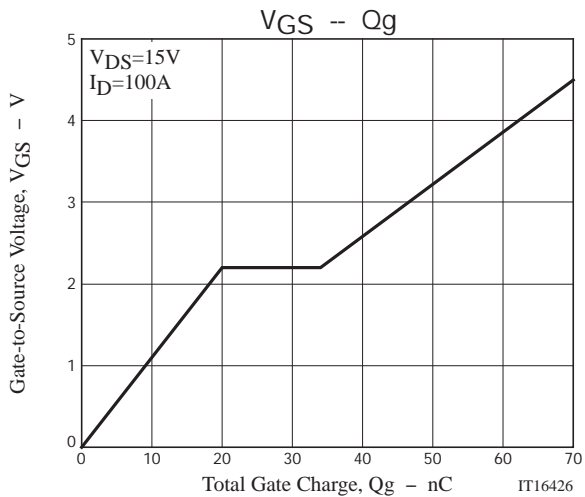
## Switching Time Test Circuit



## Ordering Information

Device	Package	Shipping	memo
ATP218-TL-H	ATPAK	3,000pcs./reel	Pb Free and Halogen Free







# ATP218

## Outline Drawing

ATP218-TL-H



## Land Pattern Example



Note on usage : Since the ATP218 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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