



SANYO Semiconductors

## DATA SHEET

An ON Semiconductor Company

N-Channel Silicon MOSFET

# ATP218 — General-Purpose Switching Device Applications

## Features

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

## Specifications

Absolute Maximum Ratings at  $T_a=25^\circ\text{C}$ 

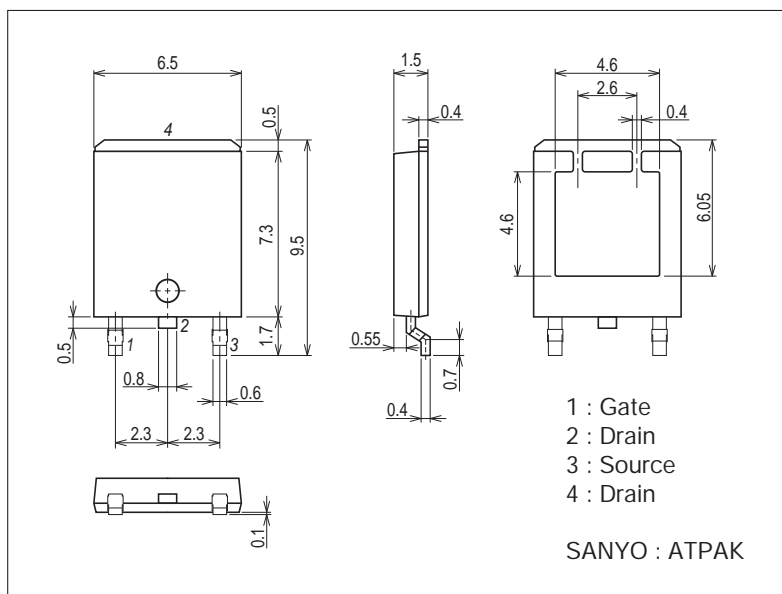
Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSS}$		30	V
Gate-to-Source Voltage	$V_{GSS}$		$\pm 10$	V
Drain Current (DC)	$I_D$		100	A
Drain Current ( $PW \leq 10\mu\text{s}$ )	$I_{DP}$	$PW \leq 10\mu\text{s}$ , duty cycle $\leq 1\%$	300	A
Allowable Power Dissipation	$P_D$	$T_c=25^\circ\text{C}$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

Note : \*1  $V_{DD}=15\text{V}$ ,  $L=100\mu\text{H}$ ,  $I_{AV}=50\text{A}$ \*2  $L \leq 100\mu\text{H}$ , Single pulse

## Package Dimensions

unit : mm (typ)

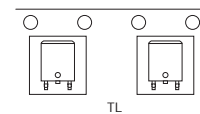
7057-001



## Product & Package Information

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

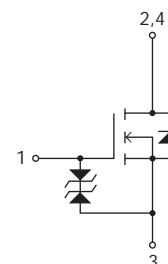
## Packing Type: TL



## Marking



## Electrical Connection

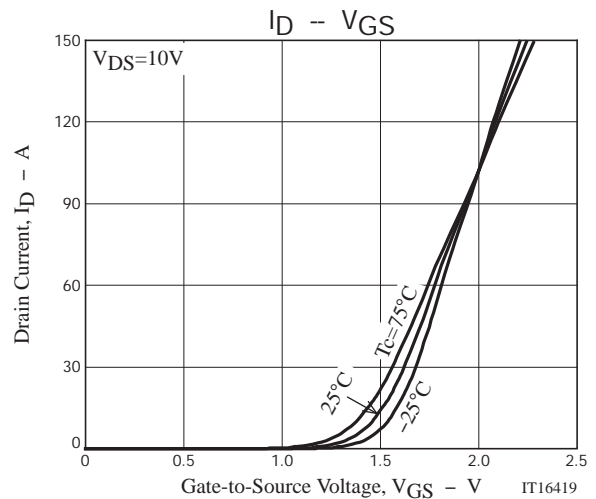
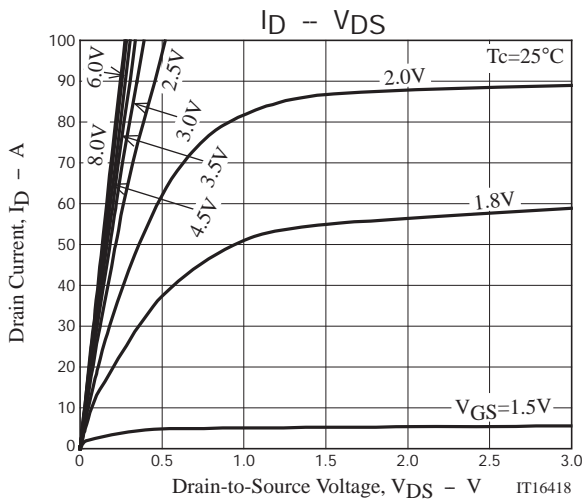
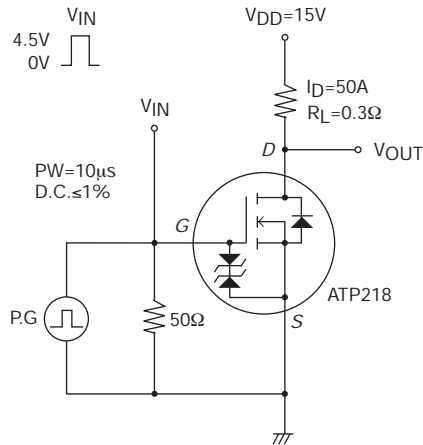


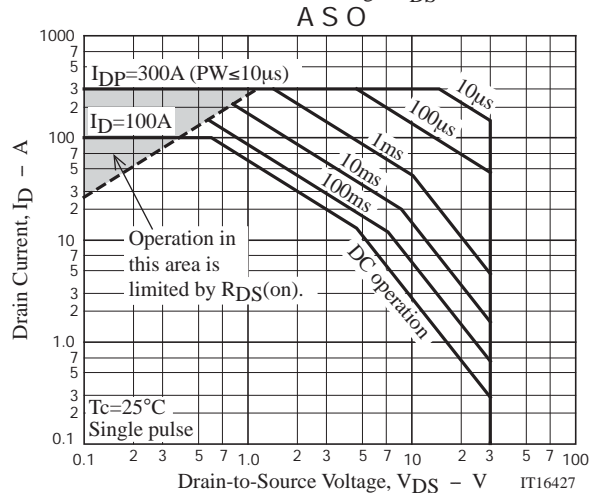
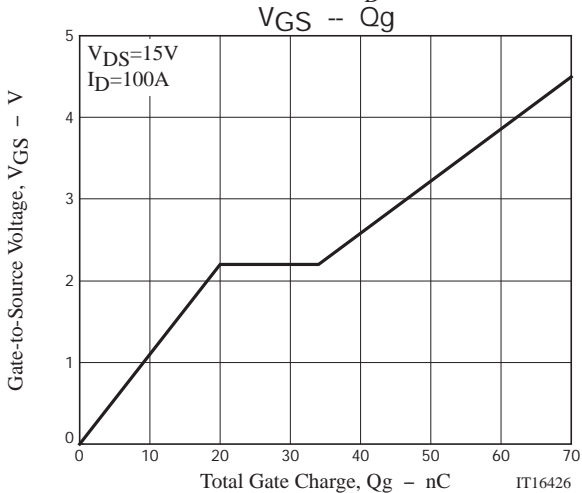
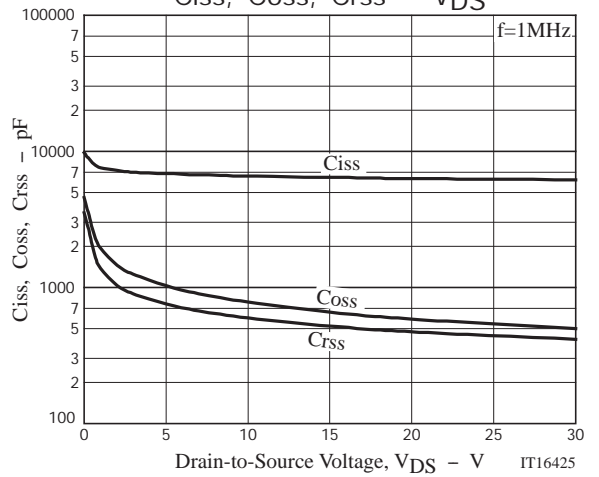
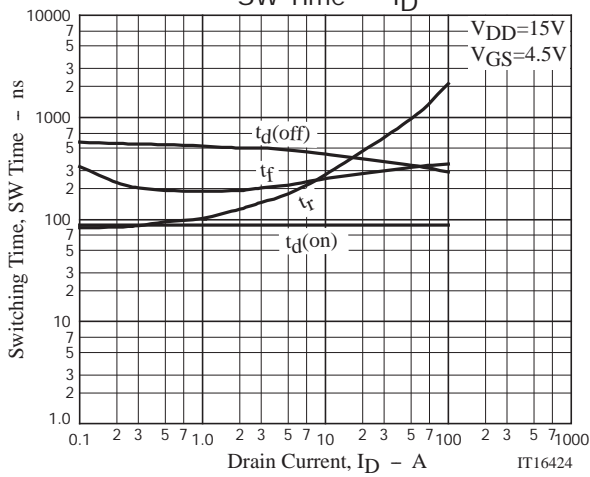
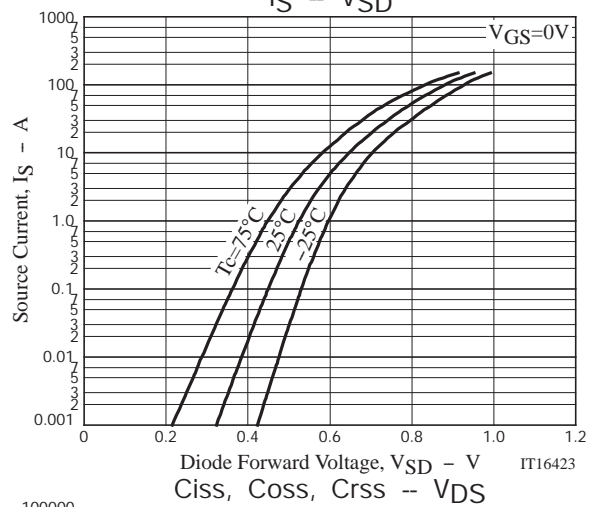
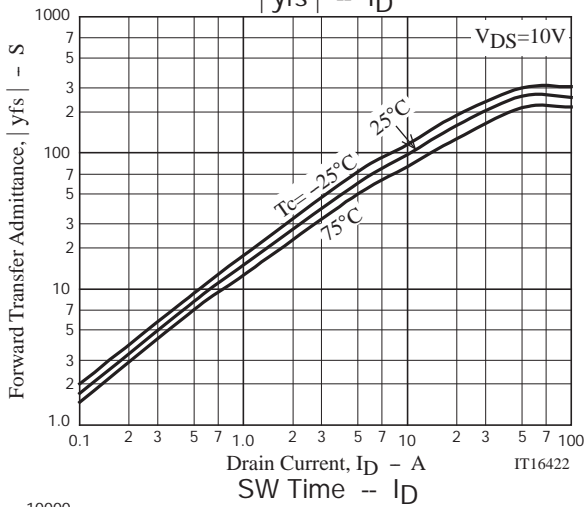
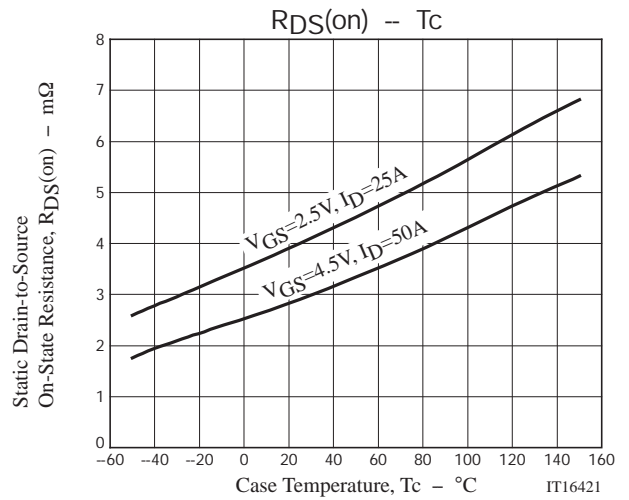
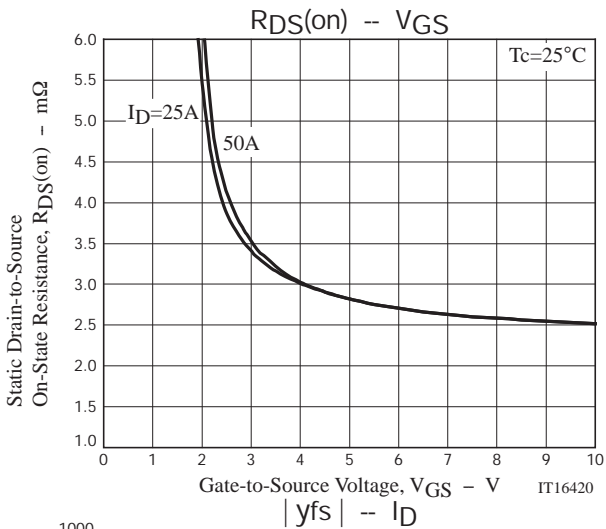
# ATP218

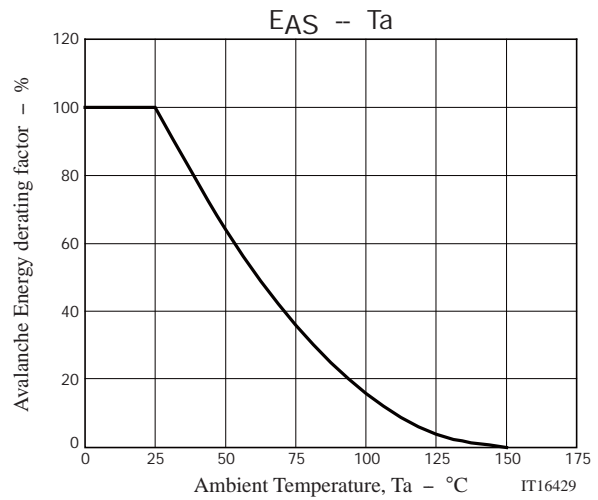
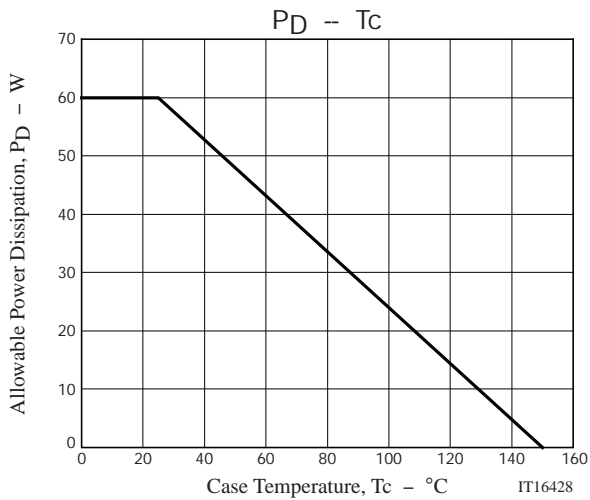
## Electrical Characteristics at $T_a=25^\circ\text{C}$

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

## Switching Time Test Circuit







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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