

Ordering number : ENA1318



SANYO Semiconductors

DATA SHEET

ATP203 — N-Channel Silicon MOSFET

General-Purpose Switching Device

Applications

Features

- Low ON-resistance.
- Large current.
- Slim package.
- 4.5V drive.
- Halogen free compliance.

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 cycles≤1%	225	A
Allowable Power Dissipation	P _D	Tc=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

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	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±16V, V _{DS} =0V			±10	μA

Marking : ATP203

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ATP203

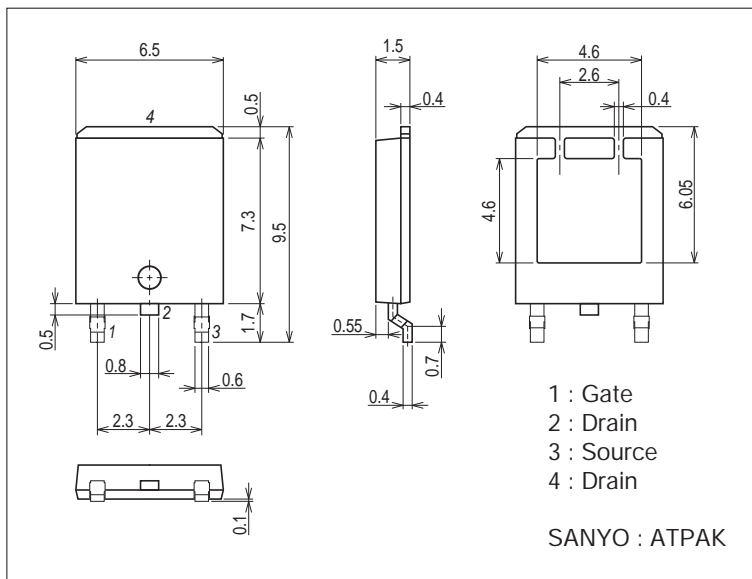
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	1.2		2.6	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=38A$	13	22		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=38A, V_{GS}=10V$		6.3	8.2	$m\Omega$
	$R_{DS(on)2}$	$I_D=19A, V_{GS}=4.5V$		9.5	13.5	$m\Omega$
Input Capacitance	C_{iss}	$V_{DS}=10V, f=1MHz$		2750		pF
Output Capacitance	C_{oss}	$V_{DS}=10V, f=1MHz$		450		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=10V, f=1MHz$		265		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		24		ns
Rise Time	t_r	See specified Test Circuit.		420		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		130		ns
Fall Time	t_f	See specified Test Circuit.		75		ns
Total Gate Charge	Q_g	$V_{DS}=15V, V_{GS}=10V, I_D=75A$		44		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS}=15V, V_{GS}=10V, I_D=75A$		14		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS}=15V, V_{GS}=10V, I_D=75A$		5.6		nC
Diode Forward Voltage	V_{SD}	$I_S=75A, V_{GS}=0V$		1.02	1.2	V

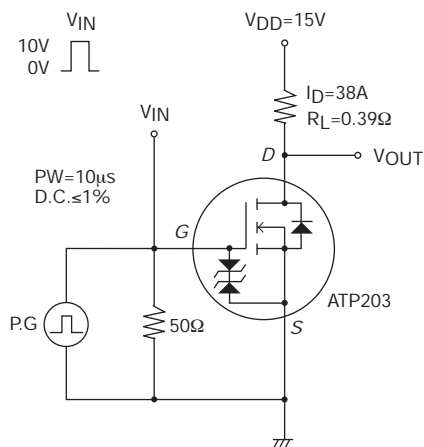
Package Dimensions

unit : mm (typ)

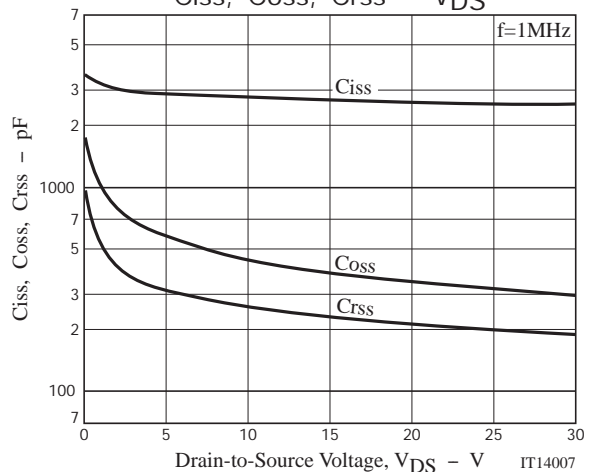
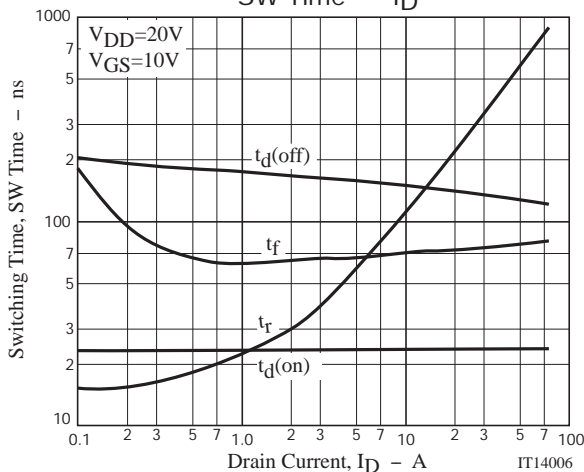
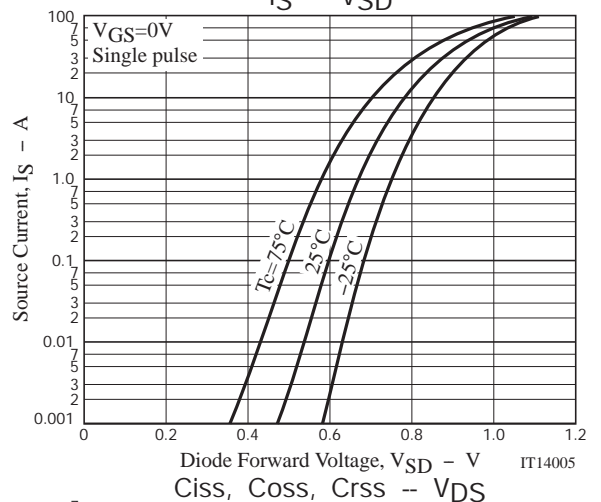
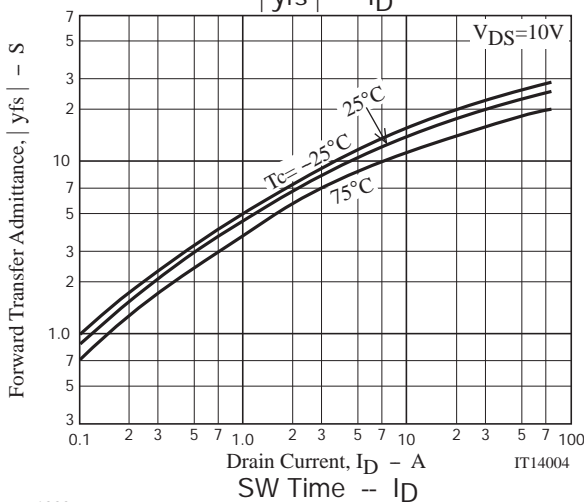
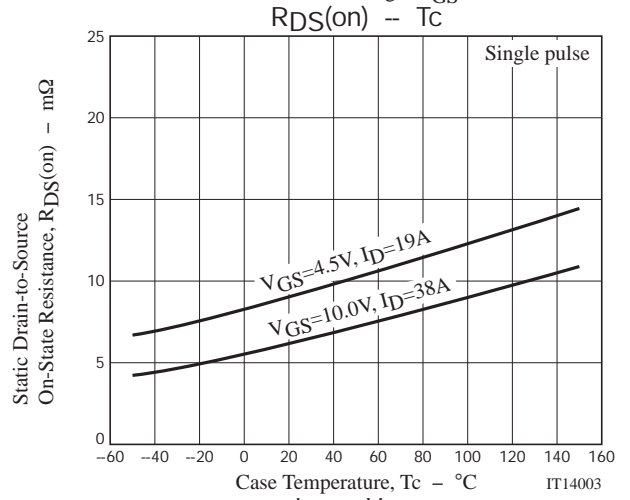
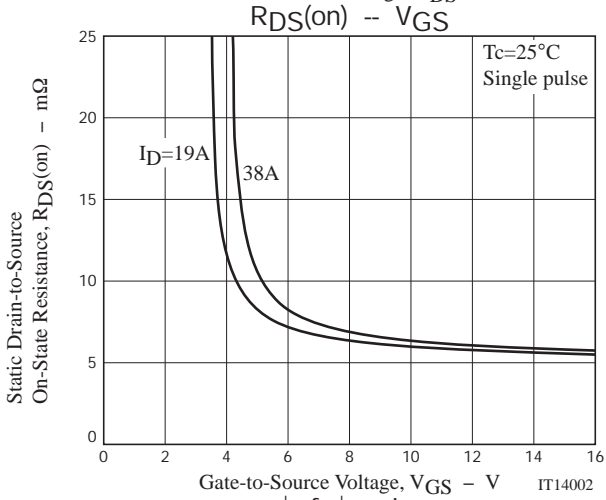
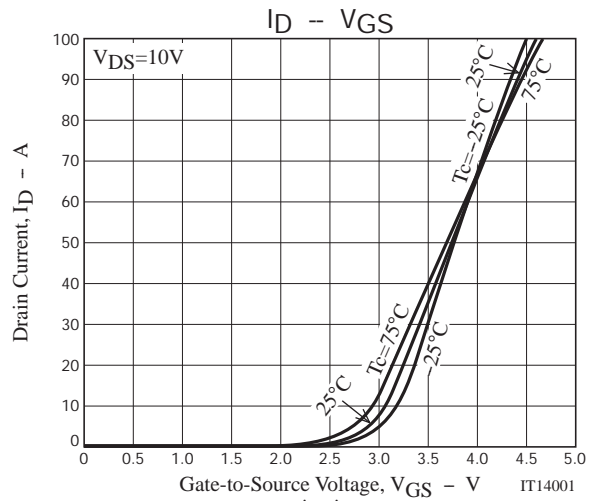
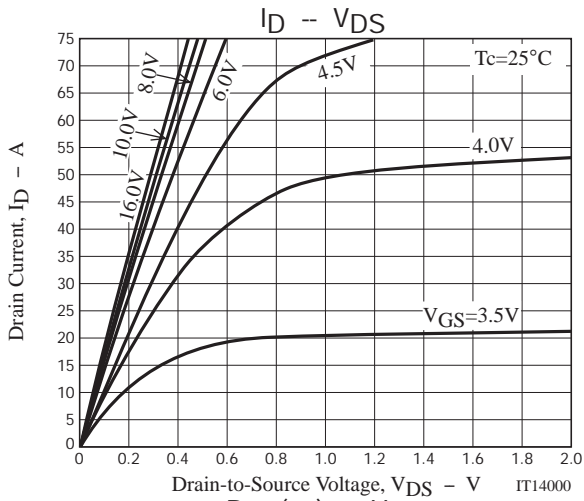
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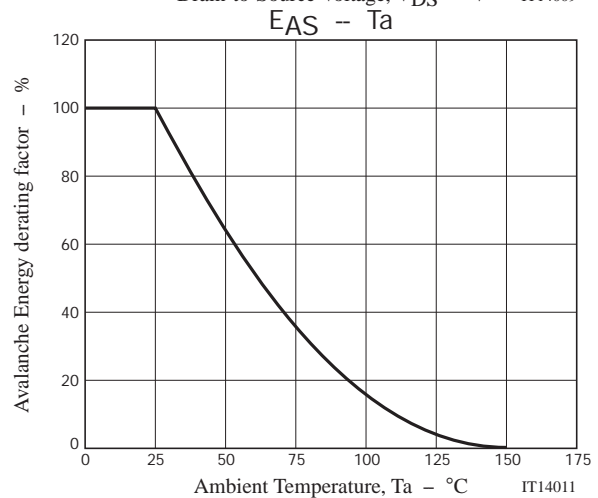
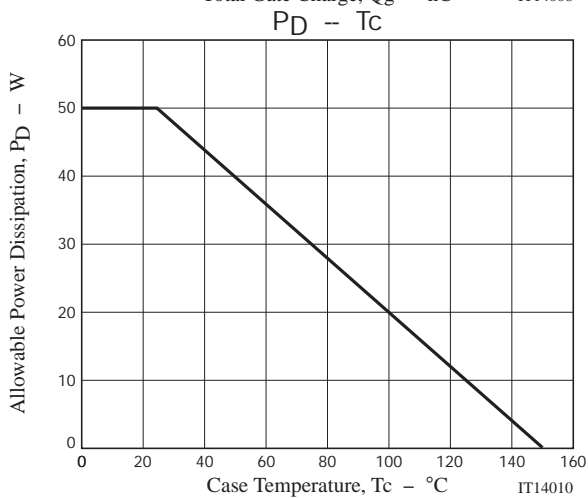
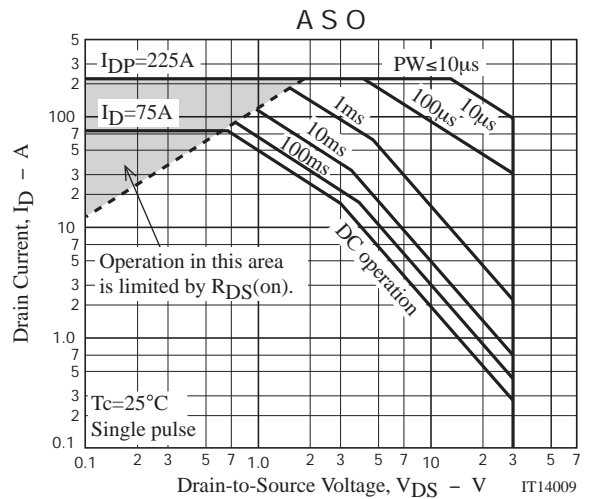
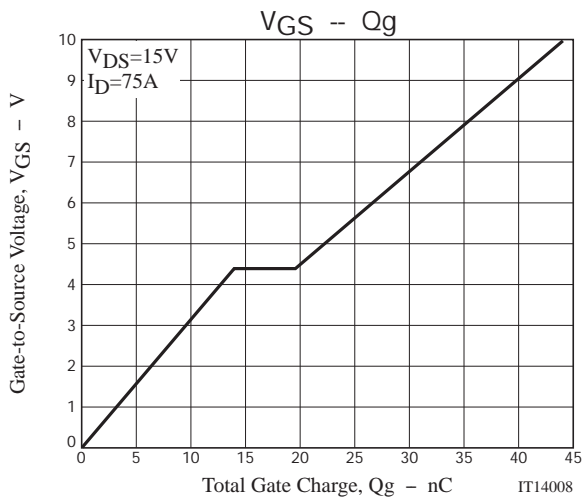
Switching Time Test Circuit



ATP203



ATP203



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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