



P-Channel Enhancement MOSFET



VDS = -30V, ID = -4.2A

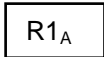
DESCRIPTION

The YS3401A provide the designer with the best combination of fast switching, ruggedized device design, low on-resistance and cost-effectiveness. The SOT-23 package is universally preferred for all commercial-industrial surface mount applications and suited for low voltage applications such as DC/DC converters.

FEATURES

- Lower Gate Charge
- Simple Drive Requirement
- Fast Switching Characteristic

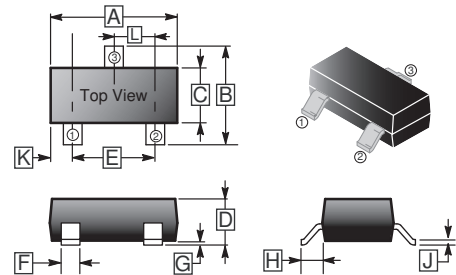
MARKING



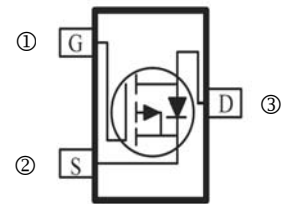
PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-23	3K	7 inch

SOT-23



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.10	G	0.01	0.18
B	2.10	2.65	H	0.5 Typ.	
C	1.20	1.40	J	0.08	0.20
D	0.89	1.17	K	0.6 REF.	
E	1.78	2.04	L	0.95 BSC.	
F	0.30	0.50			



ABSOLUTE MAXIMUM RATINGS (TA=25°C unless otherwise specified)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V _{DS}	-30	V
Gate-Source Voltage	V _{GS}	±12	V
Continuous Drain Current ²	I _D	-4.2	A
Maximum Power Dissipation ¹	P _D	400	mW
Thermal Resistance Junction-Ambient ²	R _{θJA}	313	°C / W
Operating Junction & Storage Temperature	T _J , T _{STG}	150, -55~150	°C

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ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

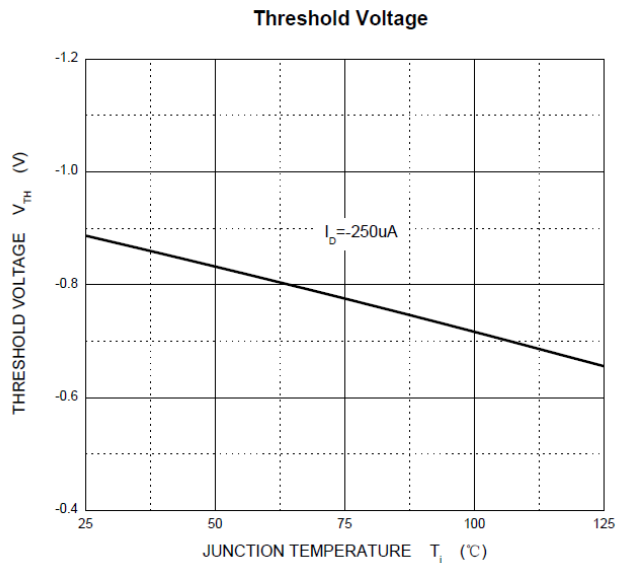
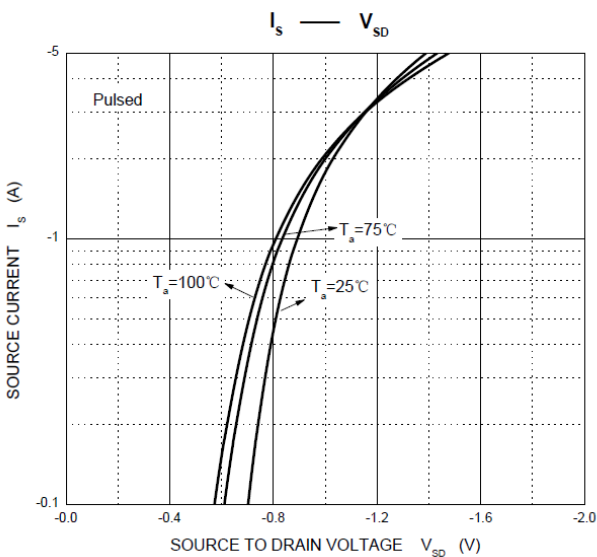
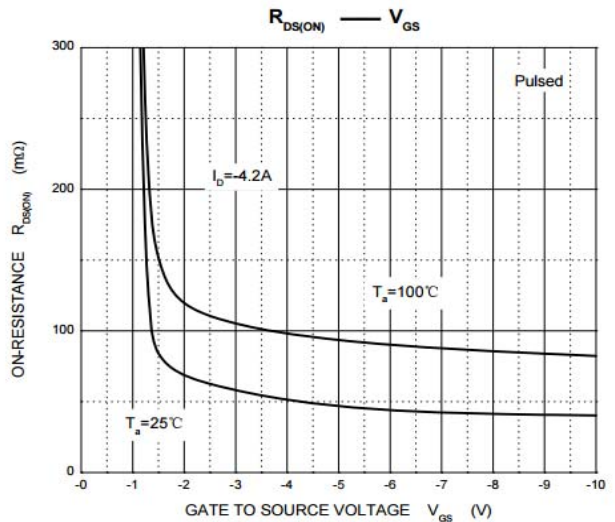
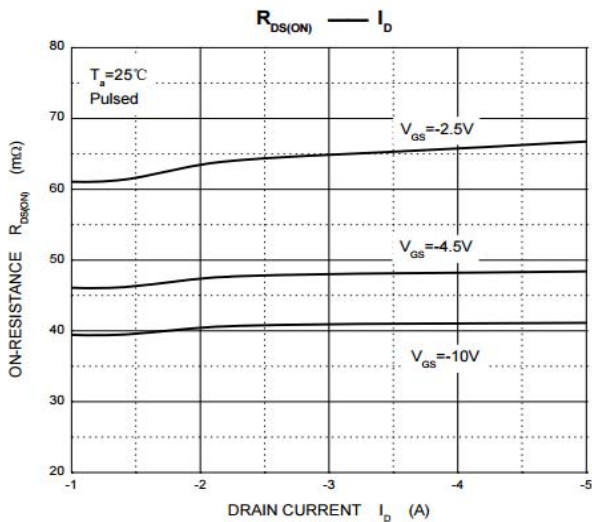
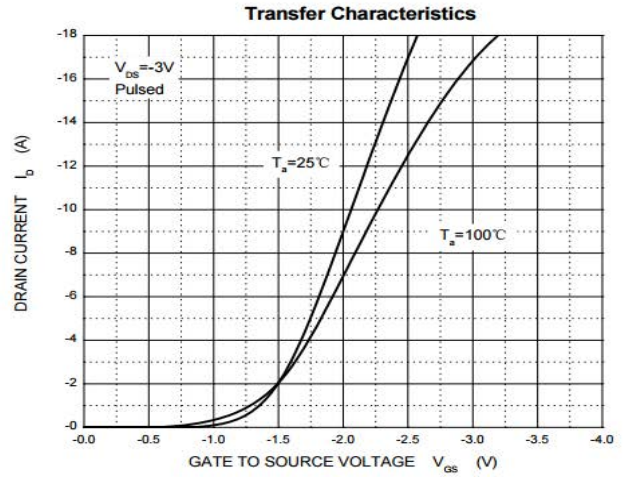
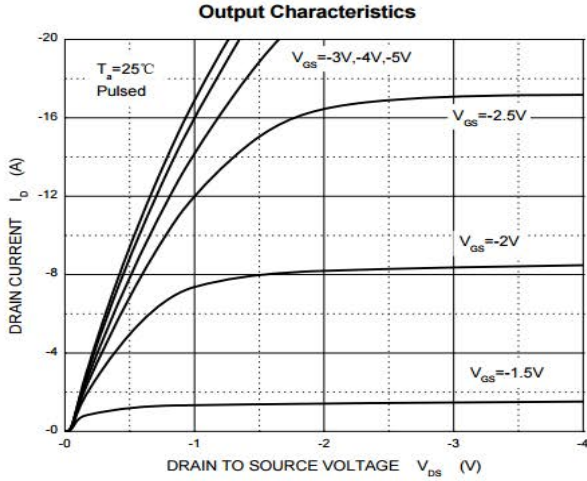
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Static						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	-30	-	-	V	V _{GS} =0, I _D = -250μA
Gate-Threshold Voltage ³	V _{GS(th)}	-0.7	-	-1.3	V	V _{DS} =V _{GS} , I _D = -250μA
Gate-Source Leakage Current	I _{GSS}	-	-	±100	nA	V _{GS} = ±12V, V _{DS} =0
Drain-Source Leakage Current	I _{DSS}	-	-	-1	μA	V _{DS} = -24V, V _{GS} =0
Forward Transconductance ³	g _{fs}	7	-	-	S	V _{DS} = -5V, I _D = -5A
Static Drain-Source On-Resistance ³	R _{DS(ON)}	-	-	60	mΩ	V _{GS} = -10V, I _D =-4.2A
		-	-	70		V _{GS} = -4.5V, I _D = -4A
		-	-	85		V _{GS} = -2.5V, I _D = -1A
Dynamic Parameters						
Input Capacitance	C _{iss}	-	1050	-	pF	V _{GS} =0 V _{DS} = -15V f=1.0MHz
Output Capacitance	C _{oss}	-	127	-		
Reverse Transfer Capacitance	C _{rss}	-	85	-		
Turn-on Delay Time	T _{d(on)}	-	6.5	-	nS	V _{GS} = -10V V _{DS} = -15V R _{GEN} =6Ω R _L =3.6Ω
Rise Time	T _r	-	3.5	-		
Turn-off Delay Time	T _{d(off)}	-	40	-		
Fall Time	T _f	-	13	-		
Total Gate Charge	Q _g	-	9.5	-	nC	I _D = -4A, V _{DS} = -15V V _{GS} = -4.5V
Source-Drain Diode						
Forward Voltage ³	V _{SD}	-	-	-1	V	V _{GS} =0, I _S = -1A

Note:

1. Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, When Mounted on 1 inch² FR4 Board, t < 5 sec, RθJA=100°C / W
3. Pulse Width≤300μs, Duty Cycle ≤ 2%.

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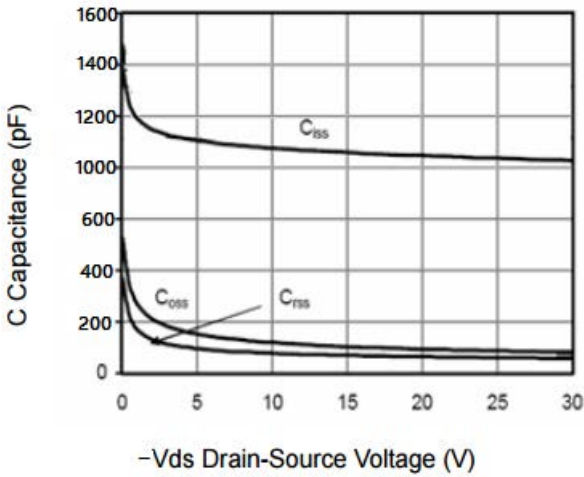
CHARACTERISTIC CURVES



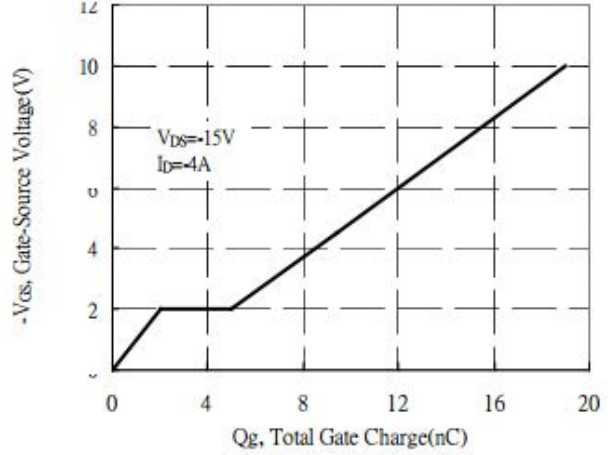
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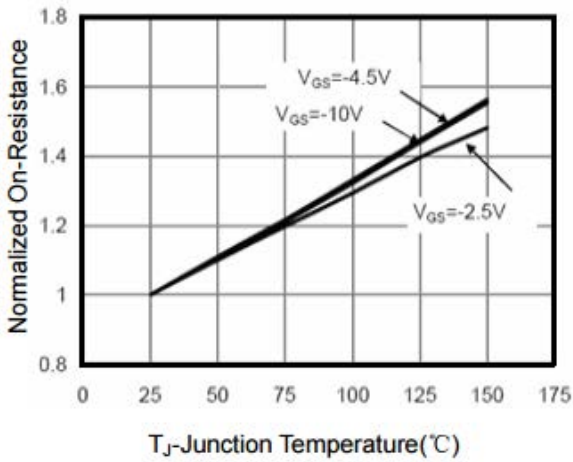
Typical Capacitance Characteristics



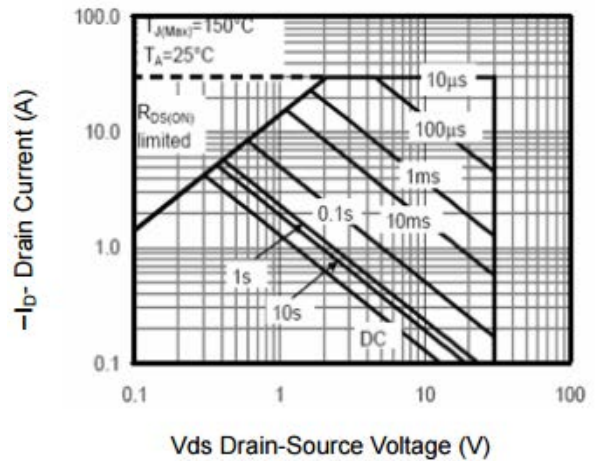
Gate Charge Characteristics



Drain-Source On-Resistance



Safe Operation Area



Normalized Maximum Transient Thermal Impedance

