



N-Channel Enhancement MOSFET



VDS = 30V, ID = 5.8A

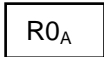
DESCRIPTION

The YS3400A 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

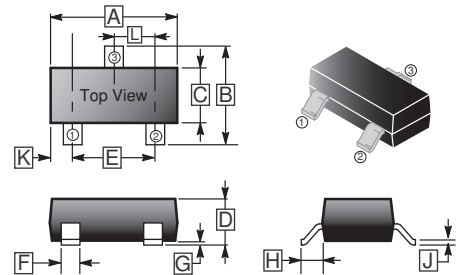
MARKING



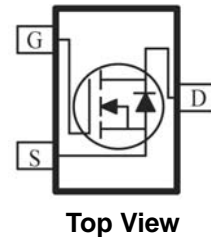
PACKAGE INFORMATION

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 ¹	I _D	5.8	A
Pulsed Drain Current ³	I _{DM}	30	A
Maximum Power Dissipation ¹	P _D	T _A =25°C	1.4
		T _A =70°C	0.9
Thermal Resistance Junction-Ambient	R _{θJA} ¹	t ≤ 10s, 89	°C / W
	R _{θJA} ²	313	
Operating Junction & Storage Temperature	T _J , T _{STG}	150, -55~150	°C

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

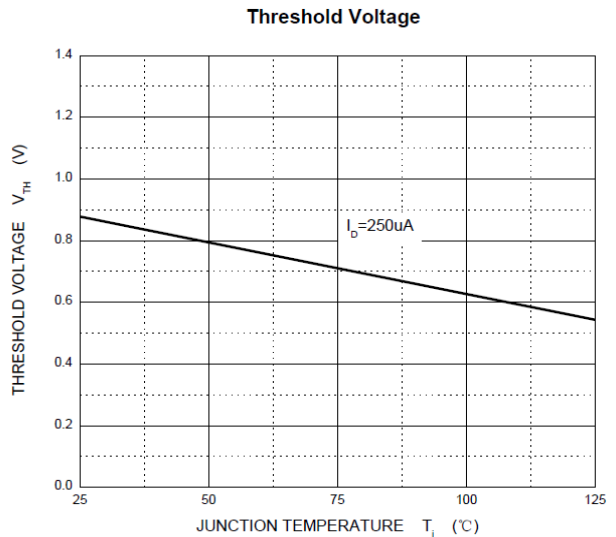
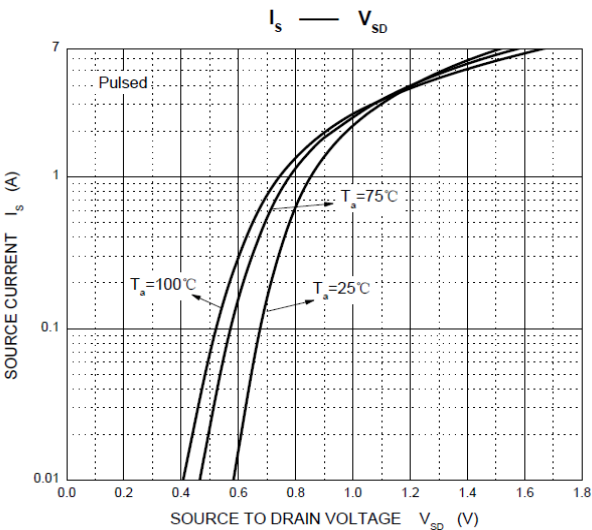
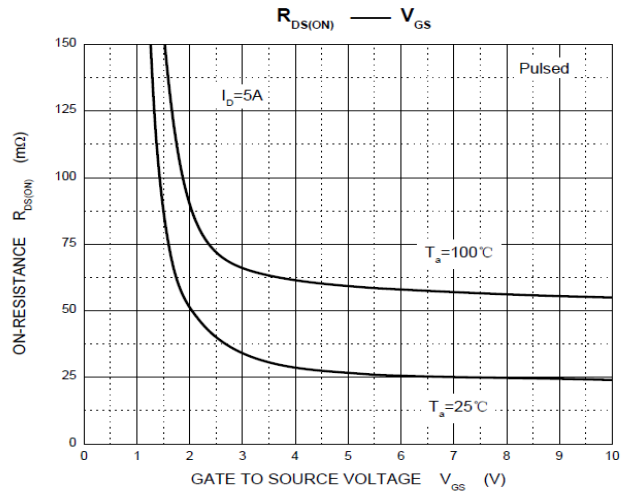
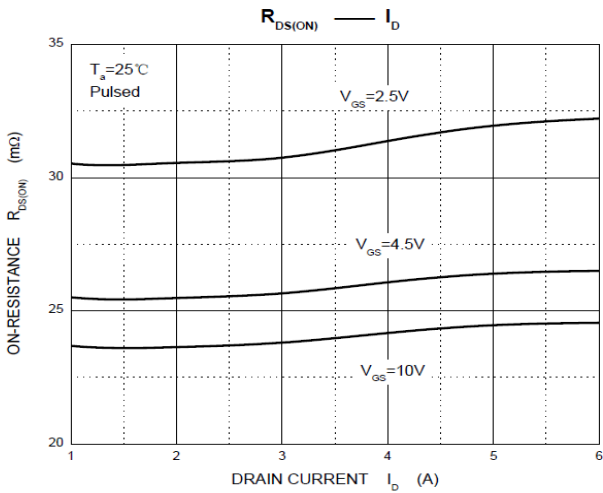
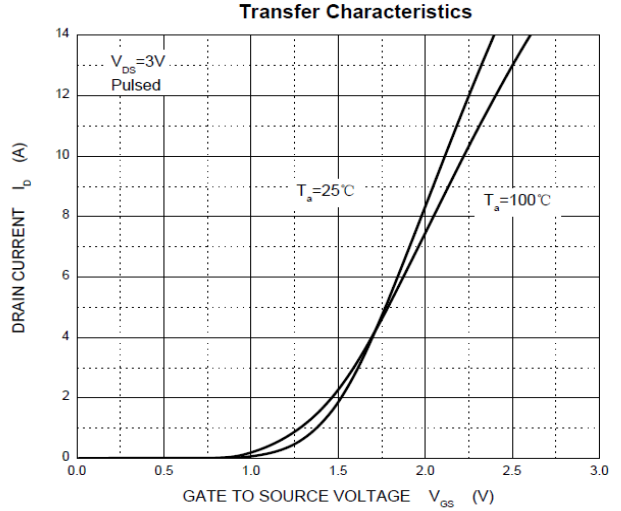
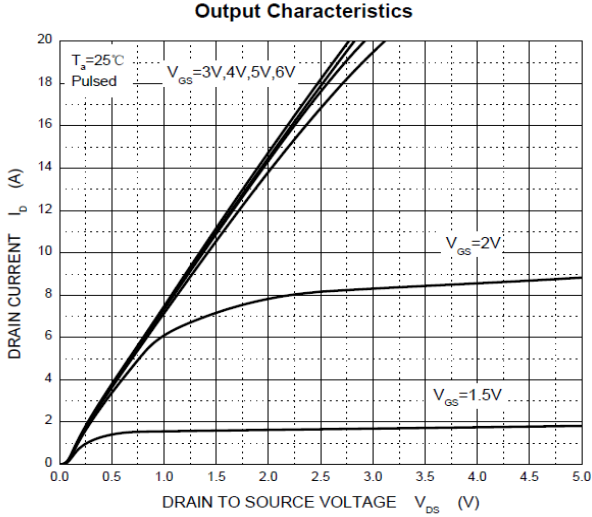
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Static						
Drain-Source Breakdown Voltage	BV _{DSS}	30	-	-	V	V _{GS} =0, I _D =250μA
Gate-Threshold Voltage	V _{GS(th)}	0.7	-	1.4	V	V _{DS} =V _{GS} , I _D =250μA
Gate-Source Leakage Current	I _{GSS}	-	-	±100	nA	V _{GS} = ±12V, V _{DS} =0
Drain-Source Leakage Current	I _{DSS}	-	-	1	μA	V _{DS} =24V, V _{GS} =0
Forward Transfer conductance	g _{fs}	8	-	-	S	V _{DS} =5V, I _D =5A
Diode Forward Voltage ⁴	V _{SD}	-	-	1	V	I _S =1A, V _{GS} =0
Static Drain-Source On-Resistance ⁴	R _{DS(ON)}	-	-	32	mΩ	V _{DS} =10V, I _D =5.8A
		-	-	38		V _{DS} =4.5V, I _D =5A
		-	-	45		V _{DS} =2.5V, I _D =4A
Switching Parameters						
Total Gate Charge	Q _g	-	9.5	-	nC	I _D =5.8A V _{DS} =15V V _{GS} =4.5V
Gate-Source Charge	Q _{gs}	-	1.5	-		
Gate-Drain Change	Q _{gd}	-	3	-		
Input Capacitance	C _{iss}	-	1155	-	pF	V _{GS} =0 V _{DS} =15V f=1.0MHz
Output Capacitance	C _{oss}	-	108	-		
Reverse Transfer Capacitance	C _{rss}	-	84	-		
Turn-on Delay Time	T _{d(on)}	-	5	-	nS	V _{DS} =15V V _{GS} =10V R _{GEN} =3Ω R _L =2.7Ω
Rise Time	T _r	-	7	-		
Turn-off Delay Time	T _{d(off)}	-	40	-		
Fall Time	T _f	-	6	-		
Gate Resistance	R _g	-	-	3.6	Ω	V _{GS} = V _{DS} =0, f=1.0MHz

Notes:

1. The data tested by surface mounted on a 1 inch² FR4 board with 2OZ copper.
2. Surface mounted on min. copper pad.
3. Pulse width limited by maximum junction temperature.
4. . Pulse Width≤300μs, Duty Cycle ≤ 2%.

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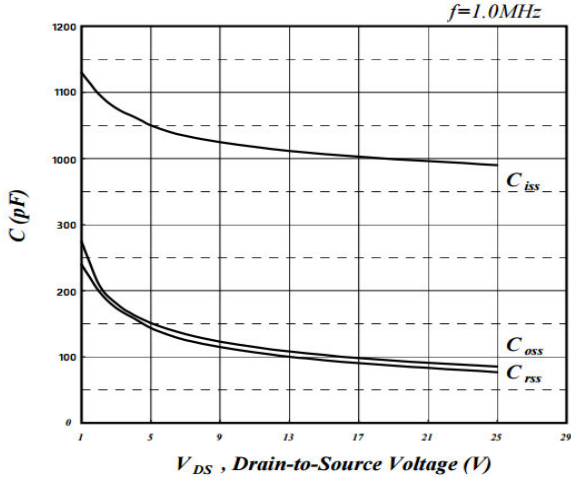
CHARACTERISTIC CURVES



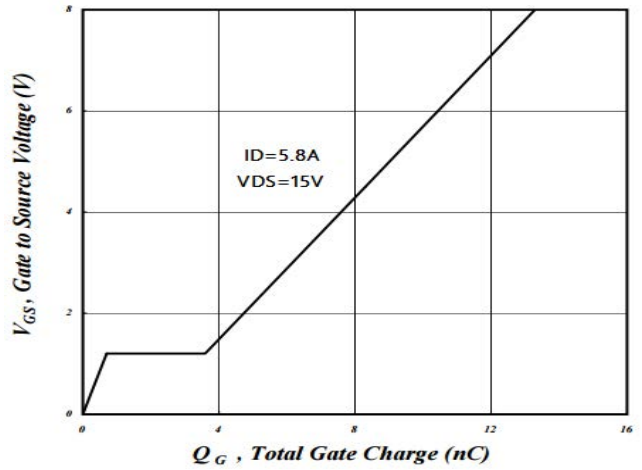
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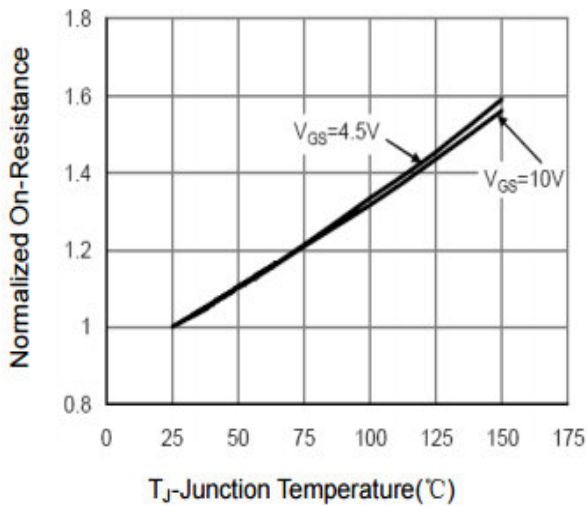
Typical Capacitance Characteristics



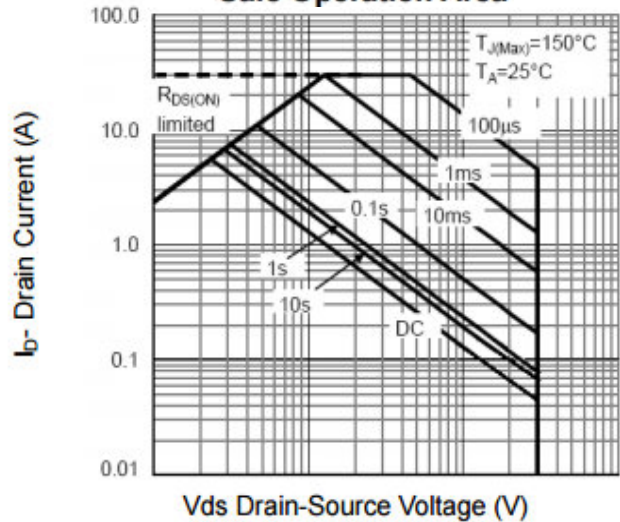
Gate Charge Characteristics



Drain-Source On-Resistance



Safe Operation Area



Normalized Maximum Transient Thermal Impedance

