YEA SHIN TECHNOLOGY CO., LTD

YS3407

P-Channel Enhancement MOSFET

VDS = -30V, ID = -4.1A

DESCRIPTION

The YS3407 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

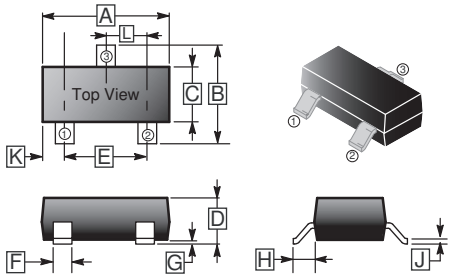
MARKING

3407

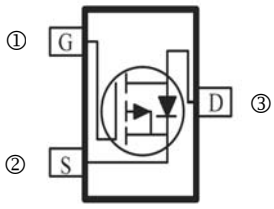
PACKAGE INFORMATION

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 (T_A=25℃ unless otherwise specified)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current [1]		I_D	-4.1	A
Pulsed Drain Current [3]		I_{DM}	-10	A
Continuous Source Current (Diode Conduction) [1]		I_S	-3	A
Power Dissipation [1]	T_A=25℃	P_D	1.4	W
Power Dissipation [2]	T_A=70℃		0.9	W
Operating Junction & Storage Temperature		T_J, T_{STG}	150, -55~150	℃
Thermal Resistance Ratings				
Thermal Resistance Junction-ambient(t≦10s) [1]		$R_{\theta JA}$	89	℃ / W
Thermal Resistance Junction-ambient [2]			357	

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 Max. junction temperature.

ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise specified)

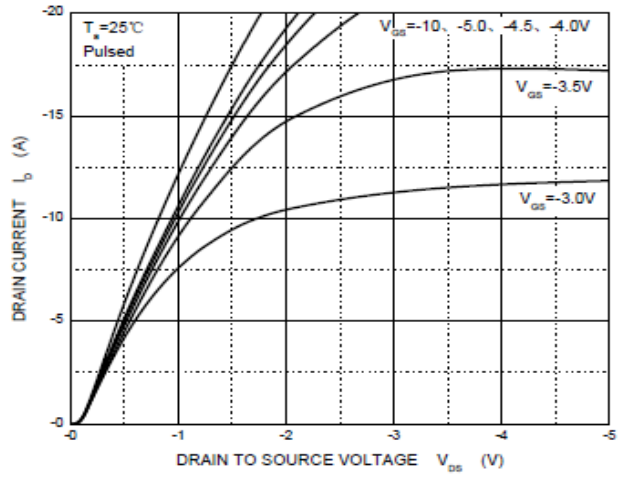
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Static						
Drain-Source Breakdown Voltage	BV_{DSS}	-30	-	-	V	V_{GS}=0, I_D= -250μA
Gate-Threshold Voltage	$V_{GS(th)}$	-1	-1.4	-3	V	V_{DS}=V_{GS}, I_D= -250μA
Gate-Source Leakage Current	I_{GSS}	-	-	±100	nA	V_{GS}= ±20V, V_{DS}=0
Drain-Source Leakage Current	I_{DSS}	-	-	-1	μA	V_{DS}= -24V, V_{GS}=0
Forward Tranconductance [1]	g_{fs}	5.5	-	-	S	V_{DS}= -5V, I_D= -4A
Static Drain-Source On-Resistance [1]	$R_{DS(ON)}$	-	50	60	mΩ	V_{GS}= -10V, I_D=-4.1A
		-	68	87		V_{GS}= -4.5V, I_D= -3A
Dynamic Parameters						
Input Capacitance	C_{iss}	-	700	-	pF	V_{GS}=0 V_{DS}= -15V f =1.0MHz
Output Capacitance	C_{oss}	-	120	-		
Reverse Transfer Capacitance	C_{rss}	-	75	-		
Switching Parameters						
Turn-on Delay Time	$T_{d(on)}$	-	8.6	-	nS	V_{GS}= -10V V_{DS}= -15V R_{GEN}=3Ω R_L=3.6Ω
Rise Time	T_r	-	5	-		
Turn-off Delay Time	$T_{d(off)}$	-	28.2	-		
Fall Time	T_f	-	13.5	-		
Source-Drain Diode						
Forward Voltage [1]	V_{SD}	-	-	-1	V	V_{GS}=0, I_S= -1A

Note:

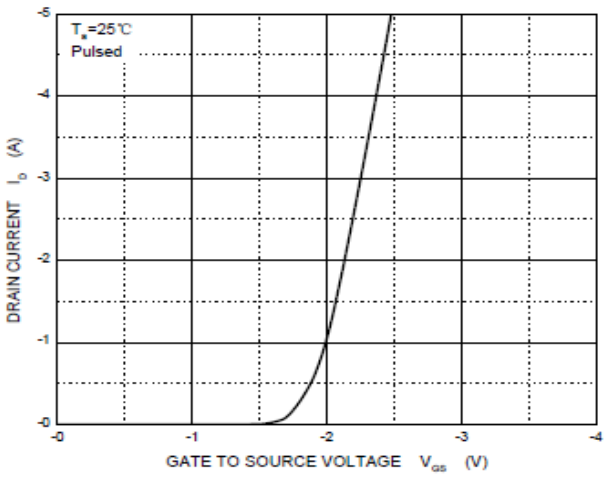
1. Pulse Test : Pulse width≦300μs, duty cycle≦2%.

CHARACTERISTIC CURVES

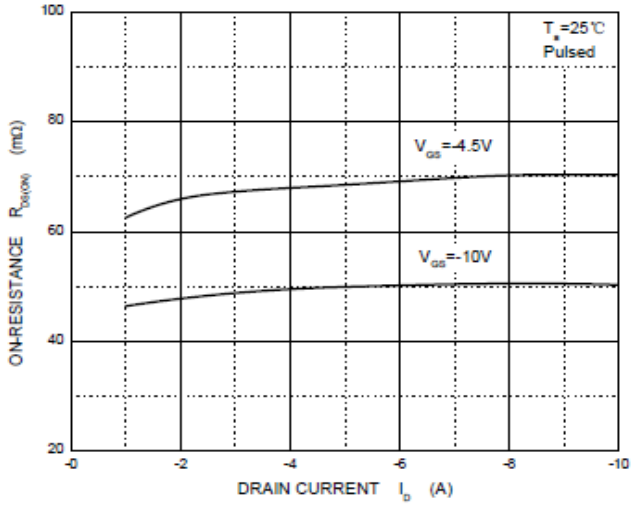
Output Characteristics



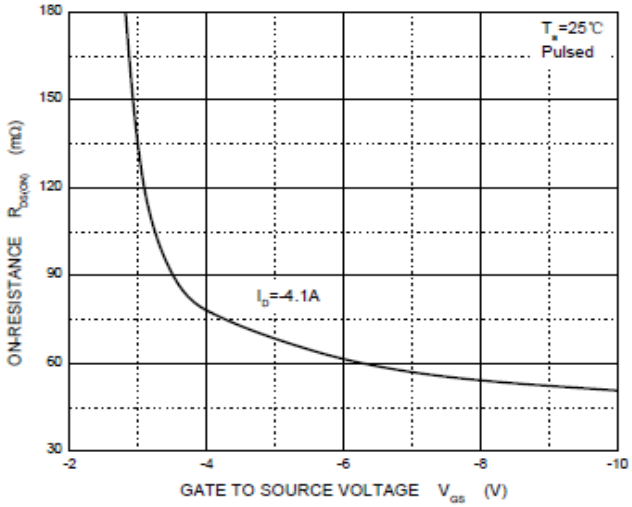
Transfer Characteristics



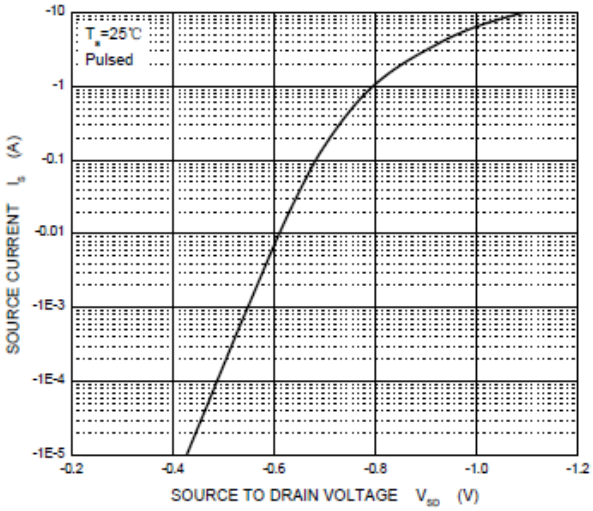
$R_{DS(ON)}$ —— I_D

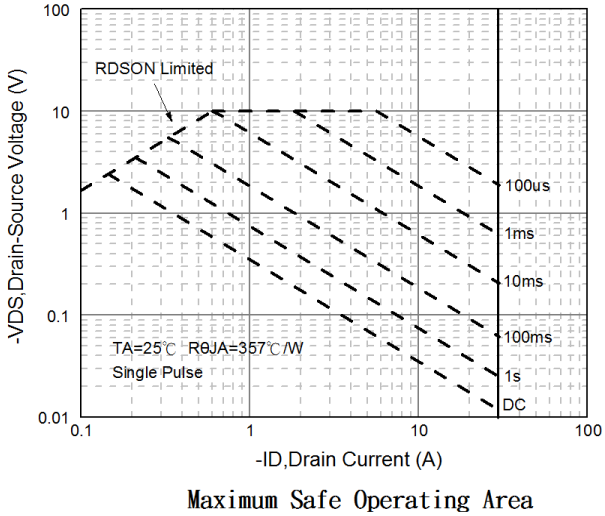


$R_{DS(ON)}$ —— V_{GS}



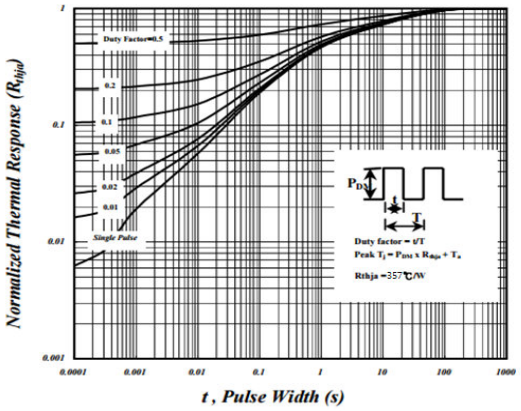
I_S —— V_{SD}





Maximum Safe Operating Area

CHARACTERISTIC CURVES



Effective Transient Thermal Impedance