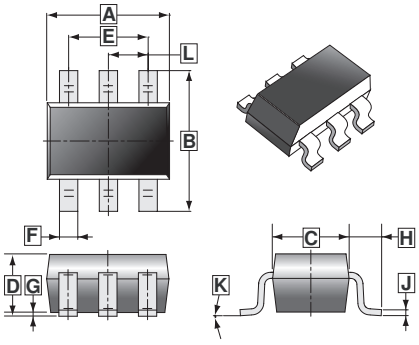
YEA SHIN TECHNOLOGY CO., LTD

YS2630Q

N-Channel Enhancement MOSFET

VDS= 100V, ID= 3.8A

SOT-26



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.10	G	0	0.10
B	2.50	3.00	H	0.60 REF.	
C	1.30	1.80	J	0.12 REF.	
D	1.30 MAX.		K	0°	10°
E	1.90 REF.		L	0.95 REF.	
F	0.25	0.50			

DESCRIPTION

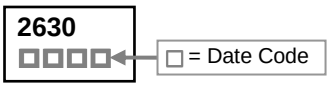
YS2630Q provides designers with the best combination of fast switching, low on-resistance and cost-effectiveness.

SOT-26 package is universally used for all commercial-industrial surface mount applications.

FEATURES

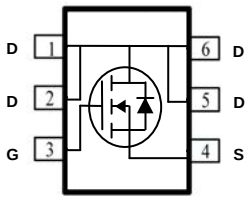
- Low on-resistance
- Capable of 2.5V gate drive
- Low drive current

MARKING



PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-26	3K	7 inch



ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	100	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current, V_{GS}=10V [1]	T_A=25℃	I_D	3.8	A
	T_A=70℃		3	
Pulsed Drain Current [3]		I_{DM}	14	A
Power Dissipation	T_A=25℃	P_D	2	W
Linear Derating Factor			0.016	W / ℃
Operating Junction and Storage Temperature Range		T_J, T_{STG}	-55~150	℃
Thermal Resistance Rating				
Maximum Thermal Resistance from Junction to Ambient [1]		$R_{\theta JA}$	62.5	℃ / W

ELECTRICAL CHARACTERISTICS (T_J=25℃ unless otherwise specified)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Test Condition
Drain-Source Breakdown Voltage		BV_{DSS}	100	-	-	V	V_{GS}=0, I_D=250μA
Gate-Threshold Voltage		$V_{GS(th)}$	1	-	2.5	V	V_{DS}=V_{GS}, I_D=250μA
Gate-Body Leakage Current		I_{GSS}	-	-	±100	nA	V_{GS}=±20V
Drain-Source Leakage Current	T_J=25°C	I_{DSS}	-	-	1	μA	V_{DS}=80V, V_{GS}=0
	T_J=70°C		-	-	25		V_{DS}=80V, V_{GS}=0
Drain-Source On-Resistance		$R_{DS(ON)}$	-	-	110	mΩ	V_{GS}=10V, I_D=3.8A
					120		V_{GS}=4.5V, I_D=2.5A
Total Gate Charge [2]		Q_g	-	25	-	nC	V_{DS}=80V V_{GS}=10V I_D=3A
Gate-Source Charge		Q_{gs}	-	3.7	-		
Gate-Drain (“Miller”)Charge		Q_{gd}	-	4.6	-		
Turn-on Delay Time [2]		$T_{d(on)}$	-	4.2	-	nS	V_{DS}=50V V_{GS}=10V R_G=3.3Ω I_D=3A
Rise Time		T_r	-	8.2	-		
Turn-off Delay Time		$T_{d(off)}$	-	35.6	-		
Fall Time		T_f	-	9.6	-		
Input Capacitance		C_{iss}	-	1548	-	pF	V_{GS}=0V V_{DS}=15V f=1MHz
Output Capacitance		C_{oss}	-	60	-		
Reverse Transfer Capacitance		C_{rss}	-	36	-		
Source-Drain Diode							
Diode Forward Voltage [2]		V_{SD}	-	-	1.2	V	I_S=3.8A, V_{GS}=0

Notes:

1. Surface mounted on a 1 inch^2 copper pad of FR4 board. The temperature is 156℃/ W when the device is mounted on a minimum copper pad.
2. Pulse width≦300μs, duty cycle≦2%
3. Pulse width is limited by the maximum junction temperature.

CHARACTERISTICS CURVE

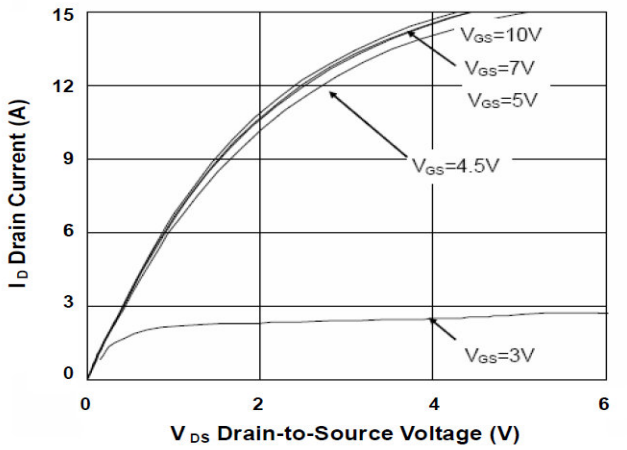


Fig.1 Typical Output Characteristics

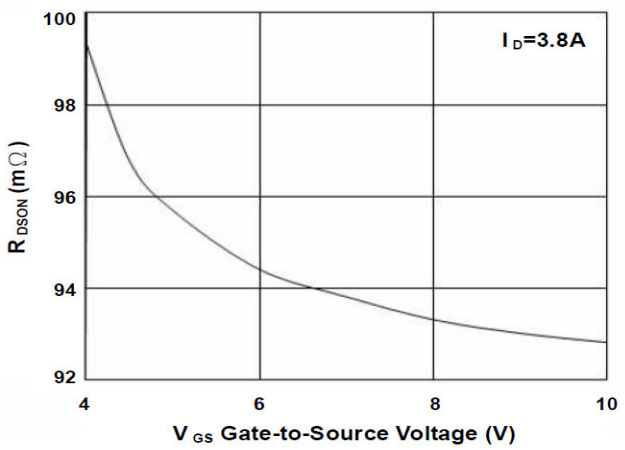


Fig.2 On-Resistance vs. G-S Voltage

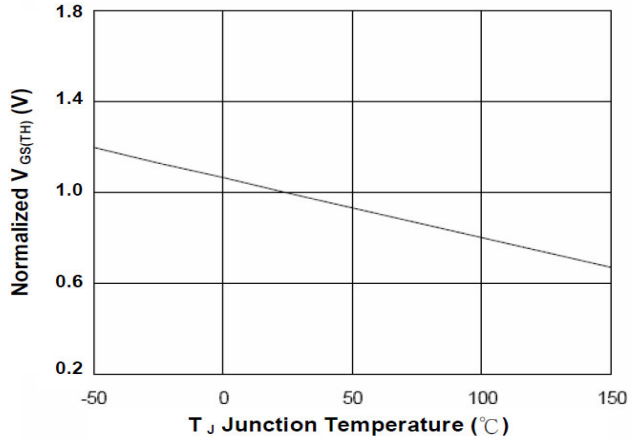


Fig.3 Normalized $V_{GS(th)}$ vs. T_J

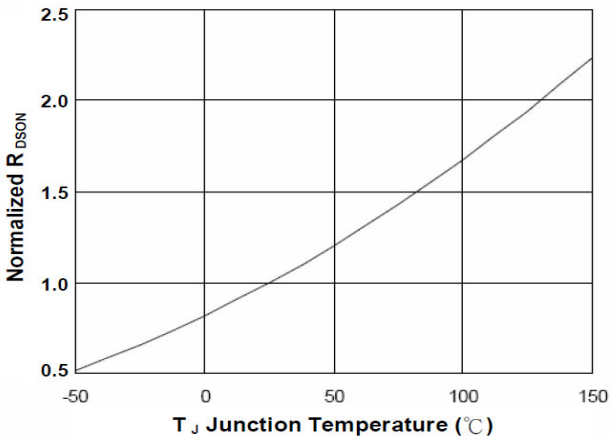


Fig.4 Normalized R_{DSON} vs. T_J

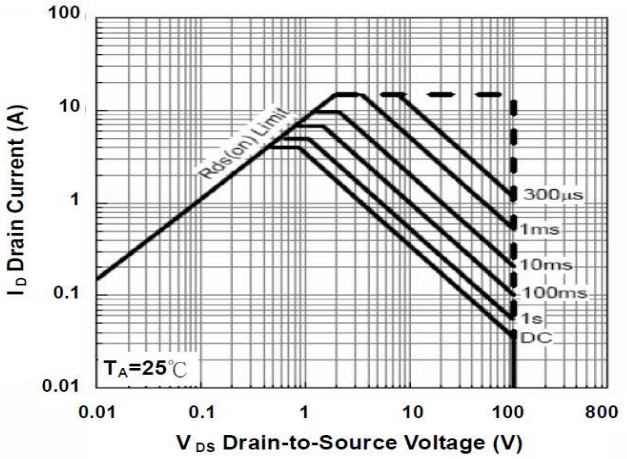


Fig.5 Safe Operating Area

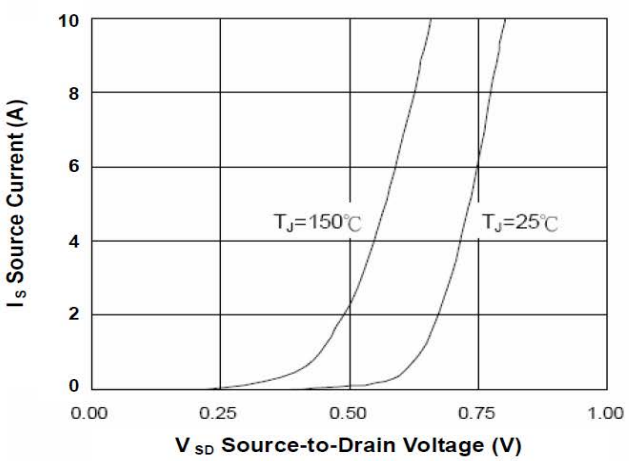


Fig.6 Forward Characteristics of Reverse

CHARACTERISTICS CURVE

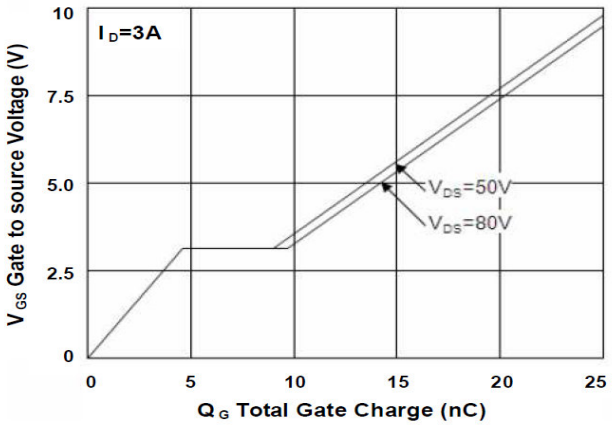


Fig.7 Gate Charge Characteristics

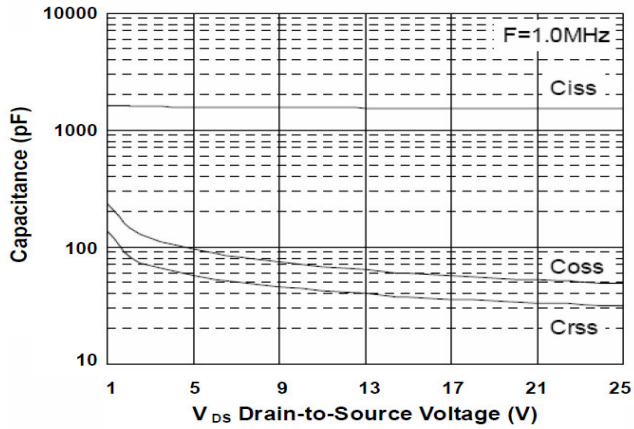


Fig.8 Capacitance Characteristic

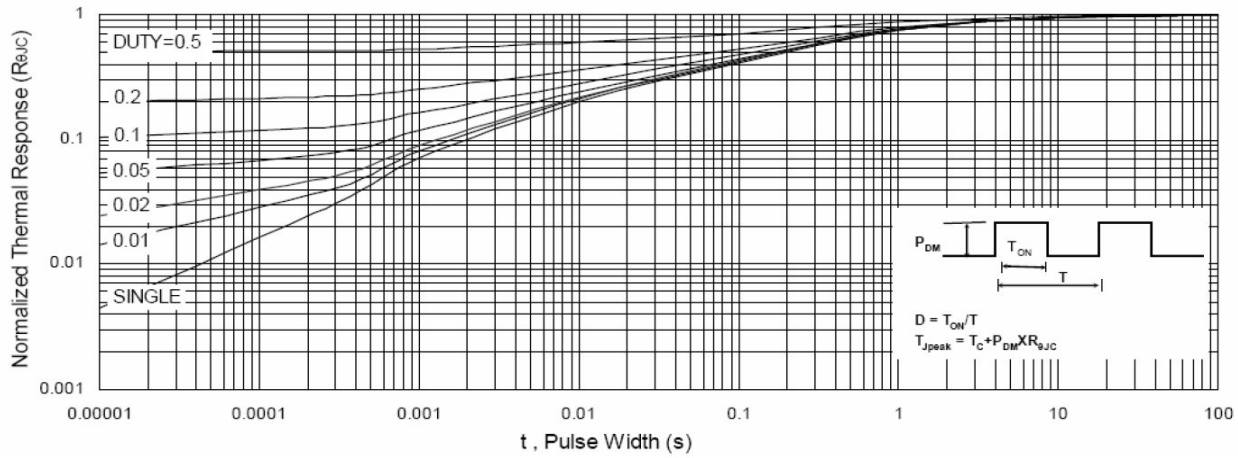


Fig.9 Normalized Maximum Transient Thermal Impedance

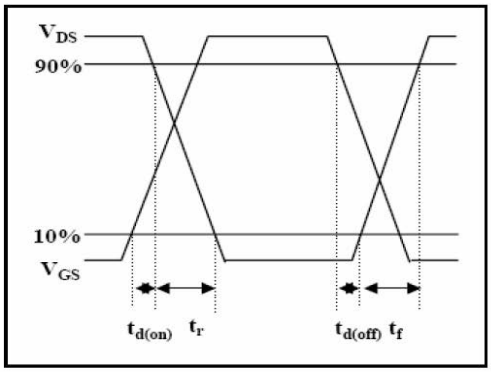


Fig.10 Switching Time Waveform

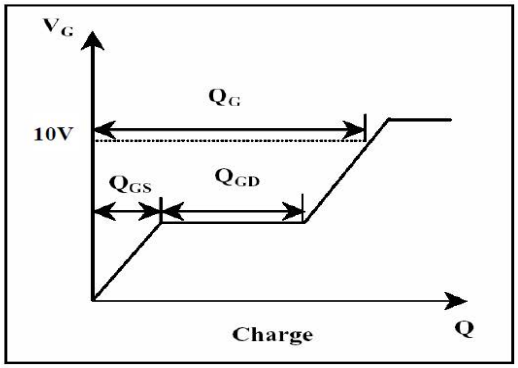


Fig.11 Gate Charge Waveform