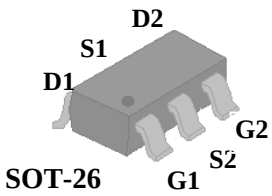
XP2622GY

Halogen-Free Product

N-CHANNEL ENHANCEMENT MODE POWER MOSFET

- **Low Gate Charge**
- **Small Package Outline**
- **Surface Mount Package**
- **RoHS Compliant**



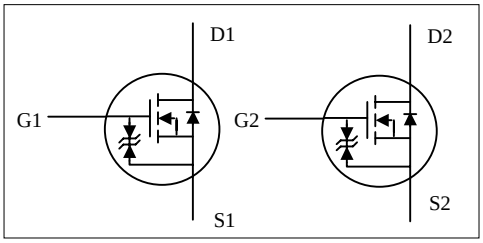
SOT-26

BV_{DSS}	50V
$R_{DS(ON)}$	1.8Ω
I_D	520mA

Description

XP2622 series are innovated design and silicon process technology to achieve the lowest possible on-resistance and fast switching performance. It provides the designer with an extreme efficient device for use in a wide range of power applications.

The SOT-26 package is widely used for all commercial-industrial applications.



Absolute Maximum Ratings@T_j=25°C(unless otherwise specified)

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	50	V
V_{GS}	Gate-Source Voltage	±20	V
I_D@T_A=25℃	Drain Current[3], V_{GS} @ 10V	520	mA
I_D@T_A=70℃	Drain Current[3], V_{GS} @ 10V	410	mA
I_{DM}	Pulsed Drain Current[1]	1.5	A
P_D@T_A=25℃	Total Power Dissipation	0.8	W
	Linear Derating Factor	0.006	W/℃
T_{STG}	Storage Temperature Range	-55 to 150	℃
T_J	Operating Junction Temperature Range	-55 to 150	℃

Thermal Data

Symbol	Parameter	Value	Unit
Rthj-a	Maximum Thermal Resistance, Junction-ambient[3]	150	℃/W

Electrical Characteristics@T_j=25°C(unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V, I_D=250uA	50	-	-	V
$\Delta BV_{DSS}/\Delta T_j$	Breakdown Voltage Temperature Coefficient	Reference to 25℃, I_D=1mA	-	0.06	-	V/℃
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=10V, I_D=500mA	-	-	1.8	Ω
		V_{GS}=4.5V, I_D=200mA	-	-	3.2	Ω
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS}, I_D=250uA	1	-	3	V
g_{fs}	Forward Transconductance	V_{DS}=10V, I_D=500mA	-	600	-	mS
I_{DSS}	Drain-Source Leakage Current	V_{DS}=50V, V_{GS}=0V	-	-	10	uA
	Drain-Source Leakage Current (T_j=70°C)	V_{DS}=40V ,V_{GS}=0V	-	-	100	uA
I_{GSS}	Gate-Source Leakage	V_{GS}=±20V, V_{DS}=0V	-	-	±30	uA
Q_g	Total Gate Charge[2]	I_D=500mA	-	1	1.6	nC
Q_{gs}	Gate-Source Charge	V_{DS}=40V	-	0.5	-	nC
Q_{gd}	Gate-Drain ("Miller") Charge	V_{GS}=4.5V	-	0.5	-	nC
$t_{d(on)}$	Turn-on Delay Time[2]	V_{DS}=25V	-	12	-	ns
t_r	Rise Time	I_D=500mA	-	10	-	ns
$t_{d(off)}$	Turn-off Delay Time	R_G=3.3Ω	-	56	-	ns
t_f	Fall Time	V_{GS}=10V	-	29	-	ns
C_{iss}	Input Capacitance	V_{GS}=0V	-	32	50	pF
C_{oss}	Output Capacitance	V_{DS}=25V	-	8	-	pF
C_{rss}	Reverse Transfer Capacitance	f=1.0MHz	-	6	-	pF

Source-Drain Diode

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
V_{SD}	Forward On Voltage[2]	I_S=0.6A, V_{GS}=0V	-	-	1.3	V

Notes:

1.Pulse width limited by Max. junction temperature.

2.Pulse test

3.Surface mounted on 1 in^2 copper pad of FR4 board, t≤5sec ; 250℃/W when mounted on min. copper pad.

THIS PRODUCT IS SENSITIVE TO ELECTROSTATIC DISCHARGE, PLEASE HANDLE WITH CAUTION.
USE OF THIS PRODUCT AS A CRITICAL COMPONENT IN LIFE SUPPORT OR OTHER SIMILAR SYSTEMS IS NOT AUTHORIZED.
XSEMI DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.
XSEMI RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN.

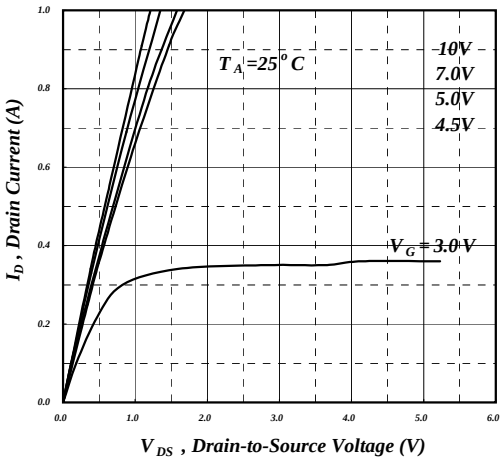


Fig 1. Typical Output Characteristics

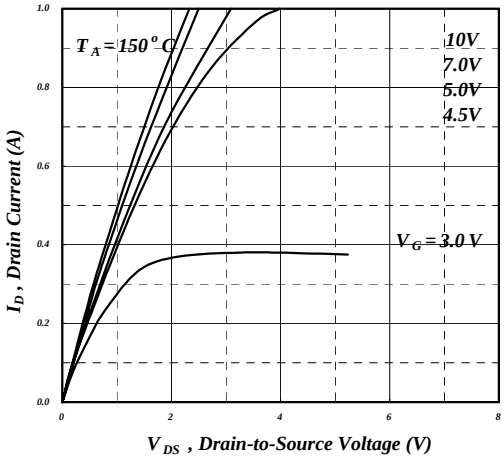


Fig 2. Typical Output Characteristics

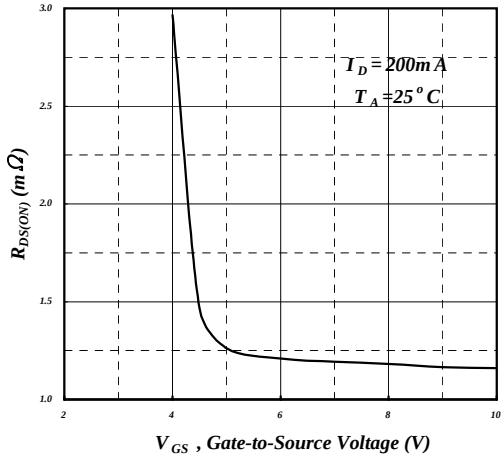


Fig 3. On-Resistance v.s. Gate Voltage

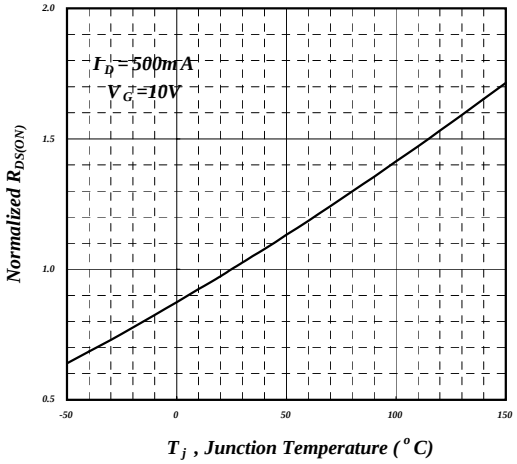


Fig 4. Normalized On-Resistance v.s. Junction Temperature

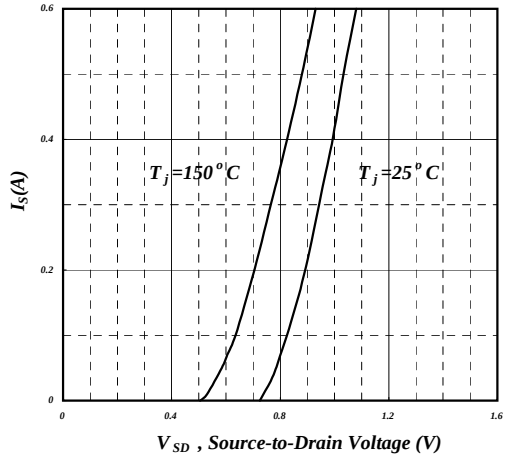


Fig 5. Forward Characteristic of Reverse Diode

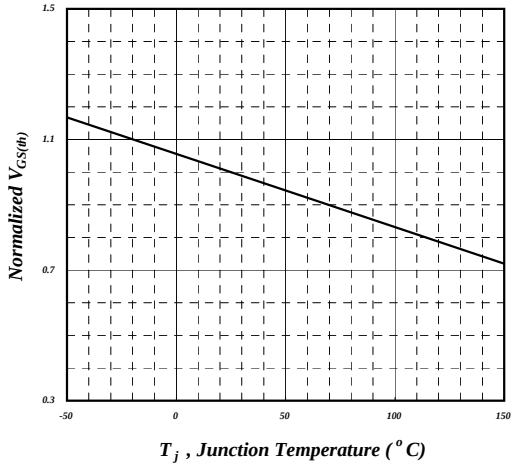


Fig 6. Gate Threshold Voltage v.s. Junction Temperature

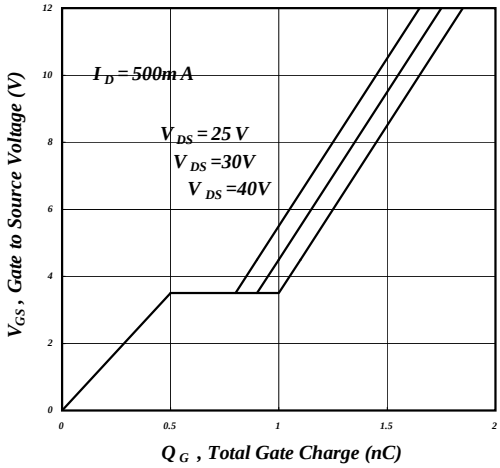


Fig 7. Gate Charge Characteristics

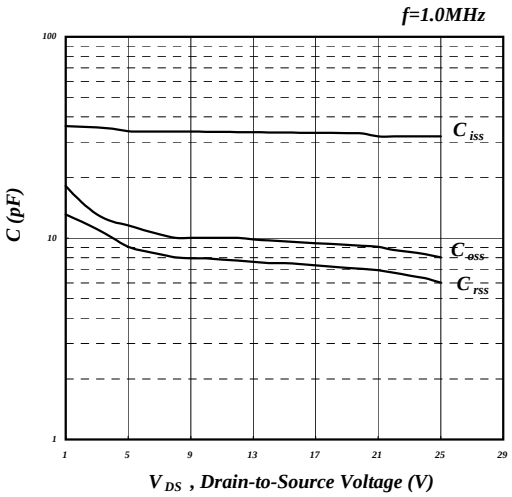


Fig 8. Typical Capacitance Characteristics

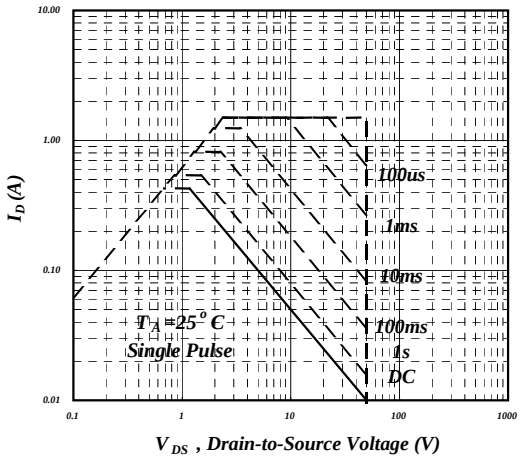


Fig 9. Maximum Safe Operating Area

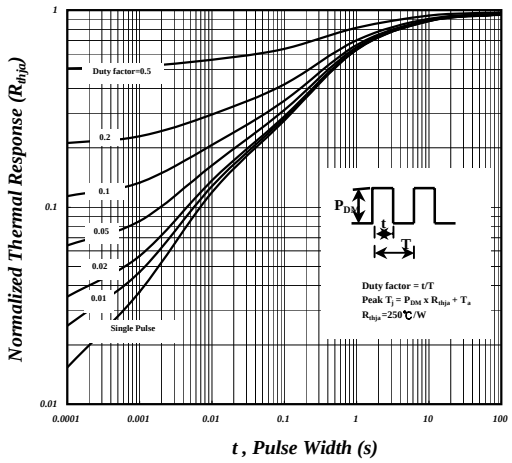


Fig 10. Effective Transient Thermal Impedance

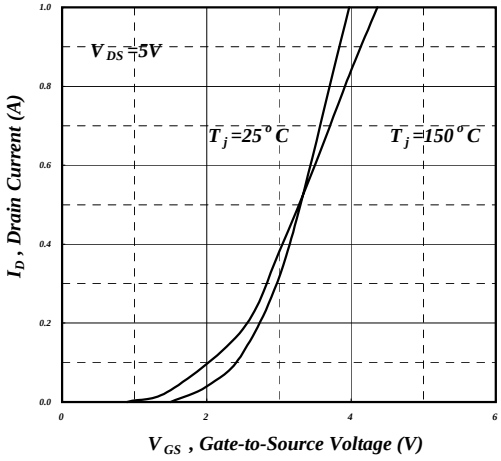


Fig 11. Transfer Characteristics

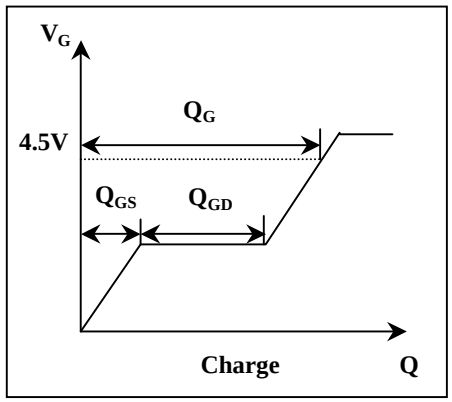
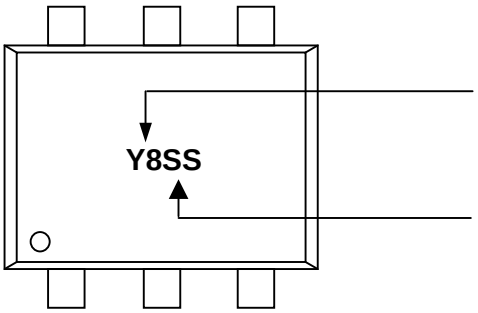


Fig 12. Gate Charge Waveform

MARKING INFORMATION



Part Number : Y8

Date Code : SS

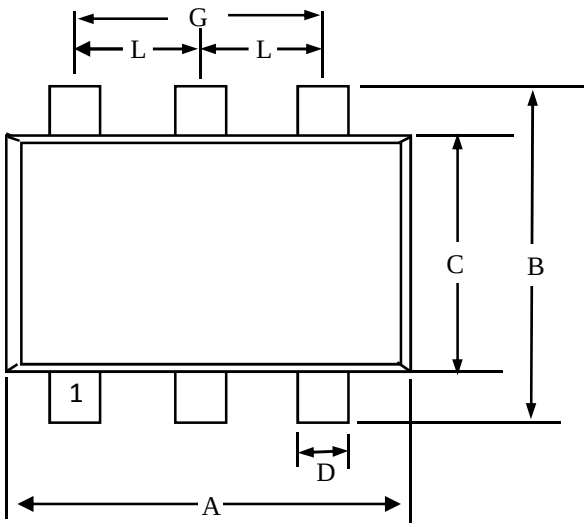
SS:2004,2008,2012,2016,2020,2024...

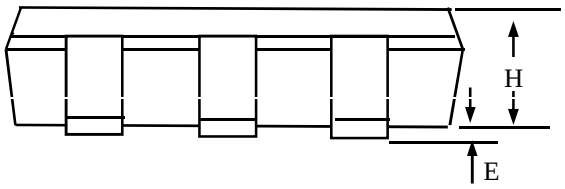
SS:2003,2007,2011,2015,2019,2023...

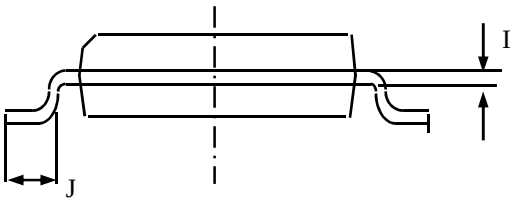
SS:2002,2006,2010,2014,2018,2022...

SS:2001,2005,2009,2013,2017,2021...

Package Outline : SOT-26







	Millimeters		
SYMBOLS	MIN	NOM	MAX
A	2.70	2.90	3.10
B	2.60	2.80	3.00
C	1.40	1.60	1.80
D	0.30	0.40	0.50
E	0.00	0.05	0.10
H	1.00	1.15	1.30
G	—	1.95 (ref.)	—
I	0.10	0.15	0.20
J	0.30	0.45	0.60
L	—	0.95 (ref.)	—

1.All Dimension Are In Millimeters.

2.Dimension Does Not Include Mold Protrusions.

Draw No. M1-Y6-G-v02

SOT-26 FOOTPRINT：