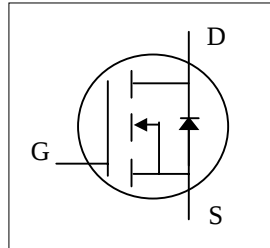
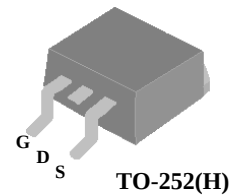


- ▼ 100% UIS Test
- ▼ Simple Drive Requirement
- ▼ Fast Switching Characteristic
- ▼ RoHS Compliant & Halogen-Free



BV_{DSS}	600V
$R_{DS(ON)}$	2.37 Ω
I_D^3	4A



Description

XP60AN2K3 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 TO-252 package is widely preferred for commercial-industrial surface mount applications and suited for low voltage applications such as DC/DC converters.

Absolute Maximum Ratings@ $T_j=25^\circ\text{C}$ (unless otherwise specified)

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	600	V
V_{GS}	Gate-Source Voltage	± 30	V
$I_D@T_C=25^\circ\text{C}$	Drain Current, $V_{GS} @ 10V^3$	4	A
I_{DM}	Pulsed Drain Current ¹	12	A
$P_D@T_C=25^\circ\text{C}$	Total Power Dissipation	50	W
$P_D@T_A=25^\circ\text{C}$	Total Power Dissipation ⁵	2	W
E_{AS}	Single Pulse Avalanche Energy ⁴	8	mJ
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ\text{C}$
T_J	Operating Junction Temperature Range	-55 to 150	$^\circ\text{C}$

Thermal Data

Symbol	Parameter	Value	Units
R_{thj-c}	Maximum Thermal Resistance, Junction-case	2.5	$^\circ\text{C/W}$
R_{thj-a}	Maximum Thermal Resistance, Junction-ambient (PCB mount) ⁵	62.5	$^\circ\text{C/W}$

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	600	-	-	V
R _{DS(ON)}	Static Drain-Source On-Resistance ²	V _{GS} =10V, I _D =2A	-	-	2.37	Ω
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250uA	2	-	4	V
g _{fs}	Forward Transconductance	V _{DS} =20V, I _D =2A	-	5.5	-	S
I _{DSS}	Drain-Source Leakage Current	V _{DS} =480V, V _{GS} =0V	-	-	100	uA
I _{GSS}	Gate-Source Leakage	V _{GS} =±30V, V _{DS} =0V	-	-	±1	uA
Q _g	Total Gate Charge	I _D =2A	-	14.6	23.4	nC
Q _{gs}	Gate-Source Charge	V _{DS} =480V	-	3	-	nC
Q _{gd}	Gate-Drain ("Miller") Charge	V _{GS} =10V	-	5	-	nC
t _{d(on)}	Turn-on Delay Time	V _{DD} =300V	-	15	-	ns
t _r	Rise Time	I _D =2A	-	17	-	ns
t _{d(off)}	Turn-off Delay Time	R _G =50Ω	-	74	-	ns
t _f	Fall Time	V _{GS} =10V	-	25	-	ns
C _{iss}	Input Capacitance	V _{GS} =0V	-	580	928	pF
C _{oss}	Output Capacitance	V _{DS} =100V	-	33	-	pF
C _{rss}	Reverse Transfer Capacitance	f=1.0MHz	-	10	-	pF
R _g	Gate Resistance	f=1.0MHz	-	2.5	5	Ω

Source-Drain Diode

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
V _{SD}	Forward On Voltage ²	I _S =2A, V _{GS} =0V	-	-	1.5	V
t _{rr}	Reverse Recovery Time	I _S =2A, V _{GS} =0V	-	290	-	ns
Q _{rr}	Reverse Recovery Charge	di/dt=100A/μs	-	950	-	nC

Notes:

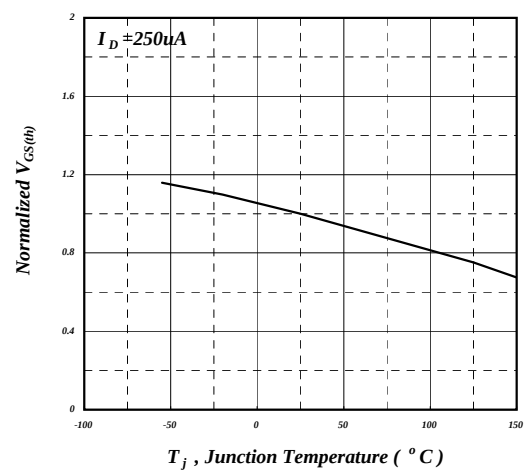
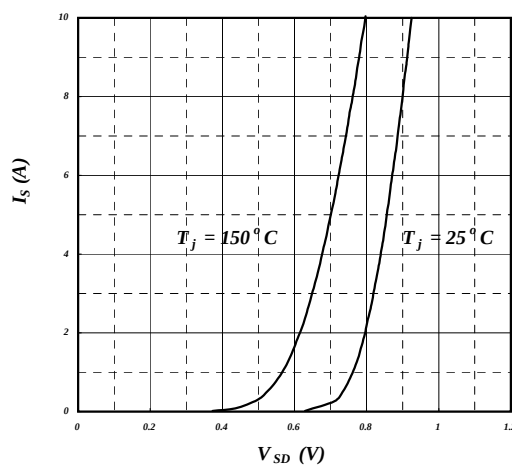
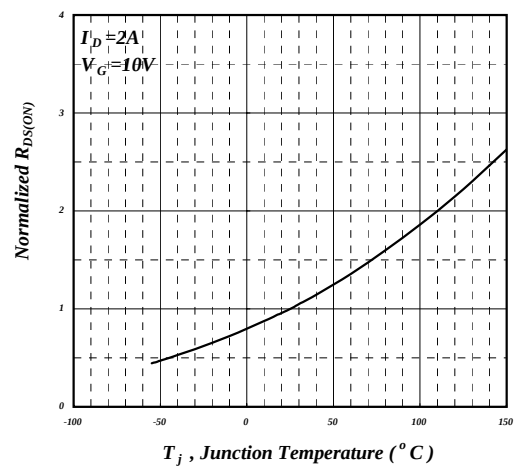
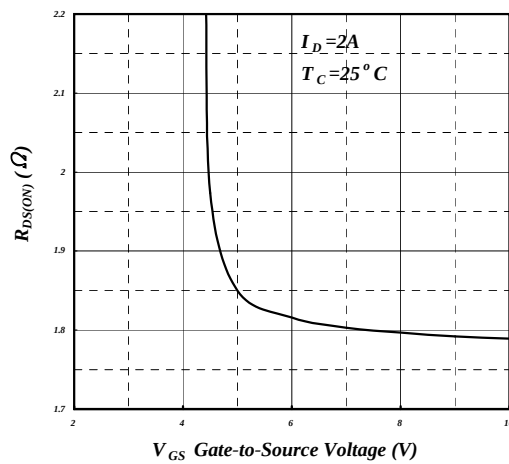
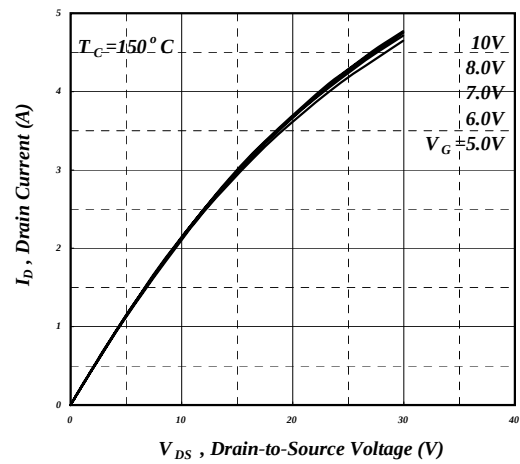
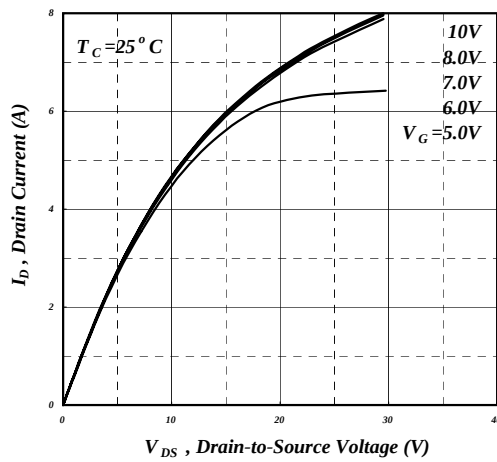
- 1.Pulse width limited by max. junction temperature.
- 2.Pulse test
- 3.Ensure that the junction temperature does not exceed T_{Jmax}.
- 4.Starting T_j=25°C , V_{DD}=90V , L=1mH , R_G=25Ω , V_{GS}=10V
- 5.Surface mounted on 1 in² copper pad of FR4 board

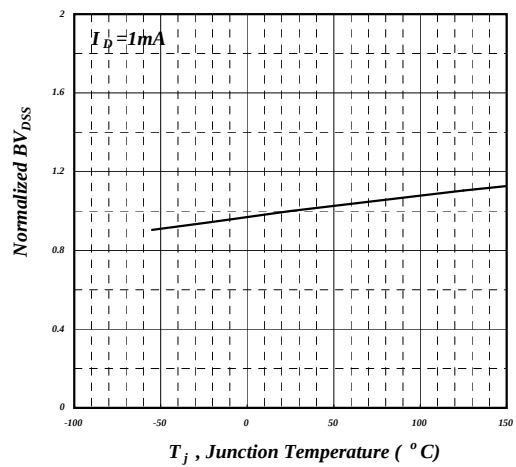
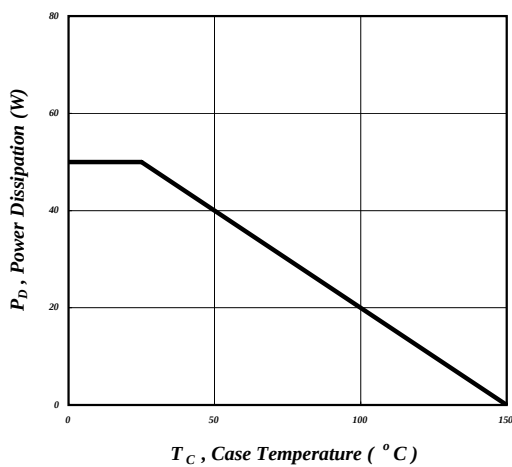
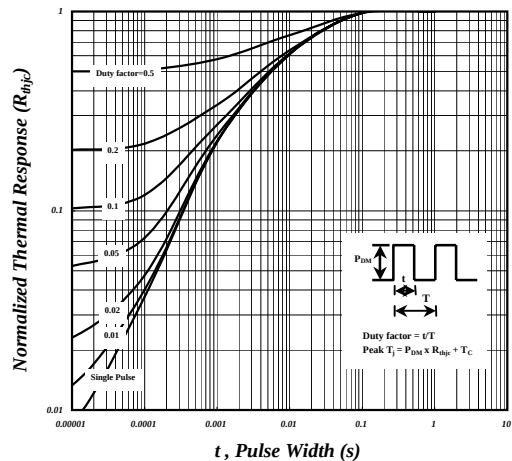
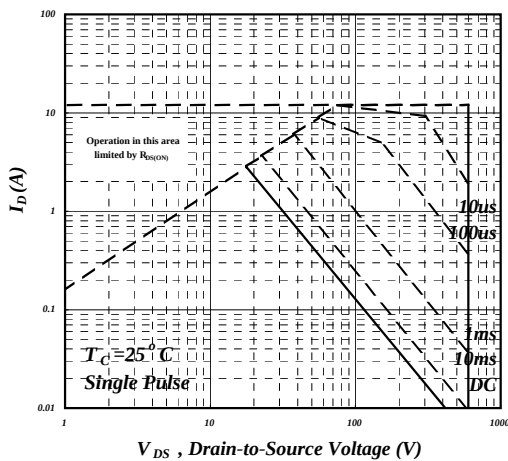
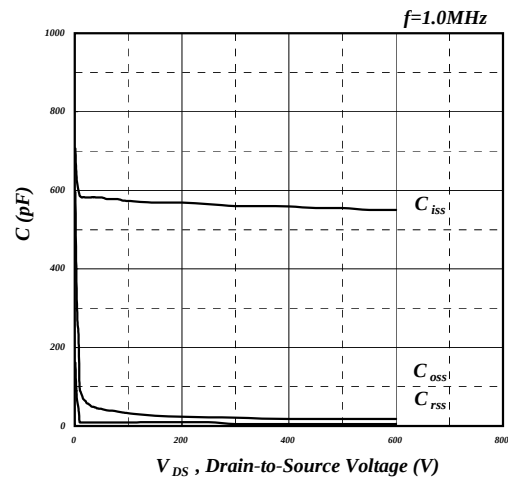
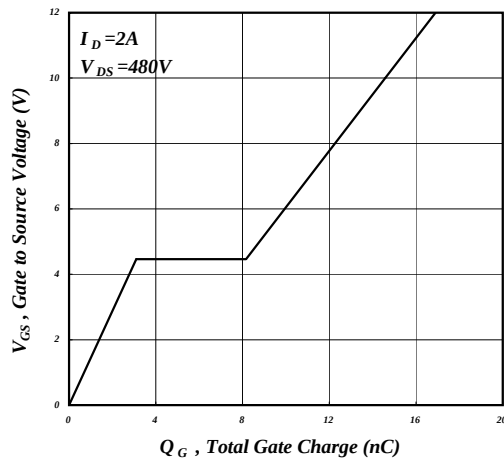
THIS PRODUCT IS SENSITIVE TO ELECTROSTATIC DISCHARGE, PLEASE HANDLE WITH CAUTION.

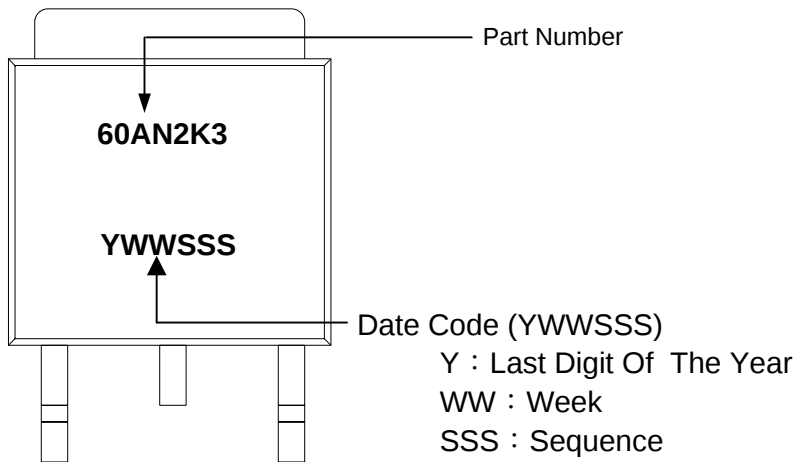
USE OF THIS PRODUCT AS A CRITICAL COMPONENT IN LIFE SUPPORT OR OTHER SIMILAR SYSTEMS IS NOT AUTHORIZED.

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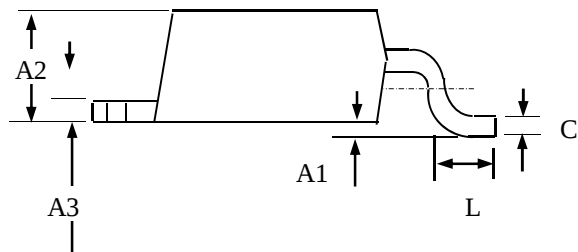


MARKING INFORMATION

Package Outline : TO-252



SYMBOLS	Millimeters		
	MIN	NOM	MAX
A2	2.18	2.30	2.40
A3	0.40	0.50	0.65
B	0.40	0.70	1.00
B1	0.50	0.85	1.20
D	6.00	6.50	6.80
D1	4.80	5.35	5.90
E3	4.00 (ref.)		
F	2.00	2.63	3.05
F1	0.50	0.85	1.20
E1	5.00	5.70	6.30
E2	0.50	1.10	1.80
e	2.3 (ref)		
C	0.35	0.525	0.70
A1	0.00	—	0.25
B2	—	—	1.25
L	0.90	1.34	1.78



- 1.All Dimensions Are in Millimeters.
- 2.Dimension Does Not Include Mold Protrusions.
3. Thermal PAD, Body and Pin contour is for reference, it may has little difference by option.

TO-252 FOOTPRINT :

