XP162A11C0PR-G

ETR11025-004

Power MOSFET

■ GENERAL DESCRIPTION

The XP162A11C0PR is a P-channel Power MOSFET with low on-state resistance and ultra high-speed switching characteristics. Because high-speed switching is possible, the IC can be efficiently set thereby saving energy.

A gate protect diode is built-in to prevent static damage. The small SOT-89 package makes high density mounting possible.

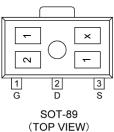
■ APPLICATIONS

- Notebook PCs
- Cellular and portable phones
- On-board power supplies
- Li-ion battery systems

■FEATURES

Low On-State Resistance : Rds(on)=0.15 Ω@Vgs=-10V : Rds(on)=0.28 Ω@Vgs=-4.5V Ultra High-Speed Switching Driving Voltage : -4.5V Gate Protect Diode Built-in P-Channel Power MOSFET DMOS Structure Package : SOT-89

■ PIN CONFIGURATION/ MARKING



G : Gate S : Source D : Drain

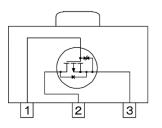
■PRODUCT NAME

PRODUCT	PACKAGE	ORDER UNIT
XP162A11C0PR-G*	SOT-89	1,000pcs/Reel

(*) The "-G" suffix denotes Halogen and Antimony free as well as being fully RoHS compliant

* x represents production lot number.





P-channel MOSFET (1 device built-in)

■ABSOLUTE MAXIMUM RATINGS

	-	la	<u>1 = 25°C</u>
PARAMETER	SYMBOL	RATINGS	UNITS
Drain-Source Voltage	Vdss	-30	V
Gate-Source Voltage	Vgss	±20	V
Drain Current (DC)	ld	-2.5	А
Drain Current (Pulse)	ldp	-10	А
Reverse Drain Current	ldr	-2.5	А
Channel Power Dissipation *	Pd	2	W
Channel Temperature	Tch	150	°C
Storage Temperature Range	Tstg	-55~150	°C

* When implemented on a ceramic PCB (900mm² x 0.8mm)

ELECTRICAL CHARACTERISTICS

DC Characteristics

DC Characteristics					Та	= 25°C
PARAMETER	SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Drain Cut-Off Current	ldss	Vds= -30V, Vgs= 0V	-	-	-10	μA
Gate-Source Leak Current	lgss	Vgs= \pm 20V, Vds= 0V	-	-	±10	μA
Gate-Source Cut-Off Voltage	Vgs(off)	Id= -1mA, Vds= -10V	-1.0	-	-2.5	V
Drain-Source On-State Resistance*1	Rds(on)	ld= -1.5A, Vgs= -10V	-	0.11	0.15	Ω
		ld= -1.5A, Vgs= -4.5V	-	0.20	0.28	Ω
Forward Transfer Admittance*1	Yfs	ld= -1.5A, Vds= -10V	-	2.5	-	S
Body Drain Diode Forward Voltage	Vf	lf= -2.5A, Vgs= 0V	-	-0.85	-1.1	V

*1 Effective during pulse test.

Dynamic Characteristics

Ta = 25℃

PARAMETER	SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Input Capacitance	Ciss	Vds= -10V, Vgs=0V f= 1MHz	-	280	-	pF
Output Capacitance	Coss		-	200	-	pF
Feedback Capacitance	Crss		-	90	-	pF

Switching Characteristics

Ta = 25°C

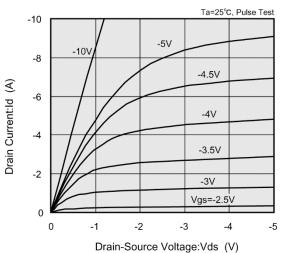
PARAMETER	SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Turn-On Delay Time	td (on)		-	10	-	ns
Rise Time	tr	Vgs= -5V, Id= -1.5A Vdd= -10V	-	30	-	ns
Turn-Off Delay Time	td (off)		-	20	-	ns
Fall Time	tf		-	35	-	ns

Thermal Characteristics

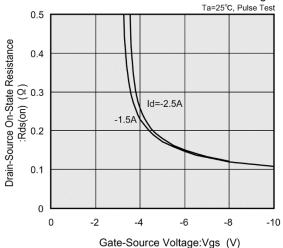
PARAMETER	SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Thermal Resistance (Channel-Ambience)	Rth (ch-a)	Implement on a ceramic PCB	-	62.5	-	°C/W

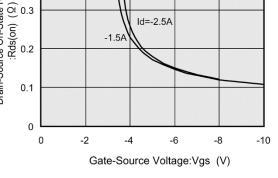
■ TYPICAL PERFORMANCE CHARACTERISTICS

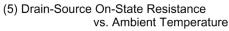
(1) Drain Current vs. Drain-Source Voltage

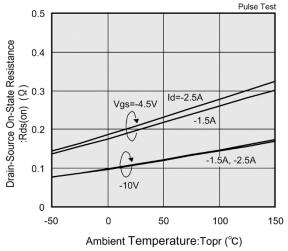


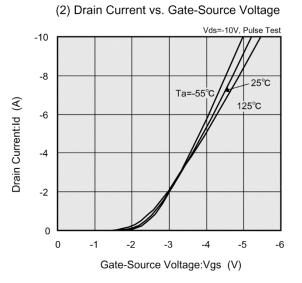
(3) Drain-Source On-State Resistance vs. Gate-Source Voltage



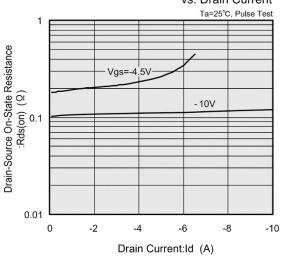


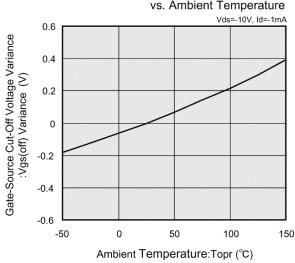


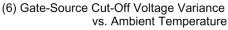




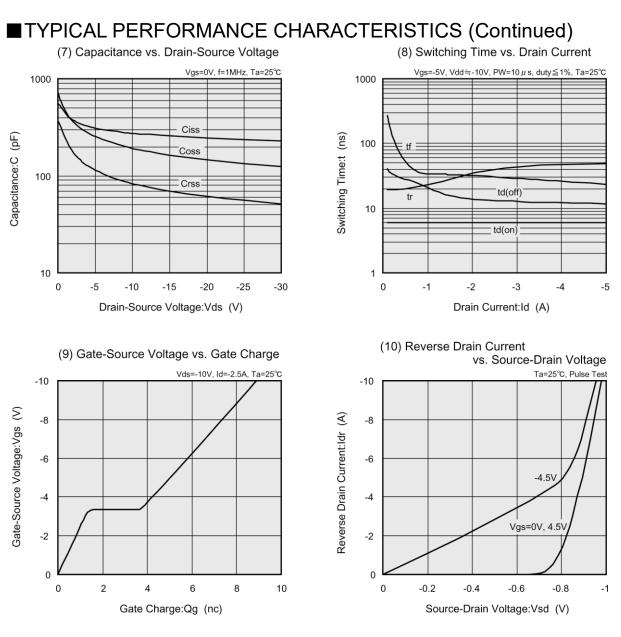
(4) Drain-Source On-State Resistance vs. Drain Current

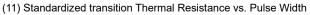


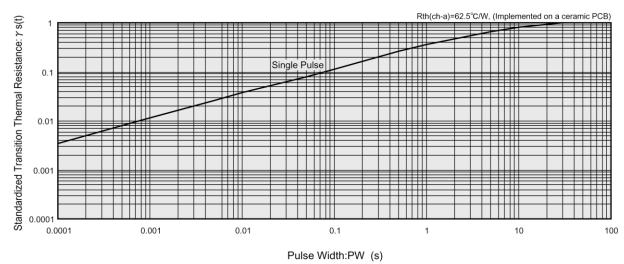




XP162A11C0PR-G







■ PACKAGING INFORMATION

For the latest package information go to, <u>www.torexsemi.com/technical-support/packages</u>

PACKAGE	OUTLINE / LAND PATTERN	THERMAL CHARACTERISTICS
SOT-89	<u>SOT-89 PKG</u>	SOT-89 Power Dissipation

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