

General Description

The 110P06B uses advanced trench technology and design to provide excellent RDS(ON) with low gate charge. It can be used in a wide variety of applications.

Features

- P-Channel
- Low ON-resistance.
- Fast Switching
- 100% avalanche tested

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	-60	V
V_{GS}	Gate-Source Voltage	± 20	V
$I_D@T_C=25^\circ\text{C}$	Continuous Drain Current	-90	A
I_{DM}	Pulsed Drain Current	-270	A
I_{AS}	Avalanche Current	-72	A
EAS	Single Pulse Avalanche Energy	810	mJ
$P_D@T_C=25^\circ\text{C}$	Total Power Dissipation	140	W
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ\text{C}$
T_J	Operating Junction Temperature Range	150	$^\circ\text{C}$

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	60	$^\circ\text{C}/\text{W}$
$R_{\theta JC}$	Thermal Resistance Junction-case	---	0.7	$^\circ\text{C}/\text{W}$

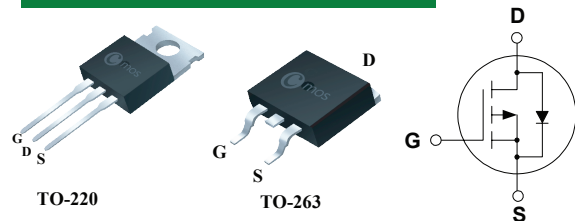
Product Summary

BVDSS	RDSON	ID
-60V	10.5m Ω	-90A

Applications

- Inverters
- Motor drive
- DC / DC converter

TO-220/263 Pin Configuration



Type	Package	Marking
CMP110P06B	TO-220	CMP110P06B
CMB110P06B	TO-263	CMB110P06B

Electrical Characteristics ($T_J=25^{\circ}\text{C}$, unless otherwise noted)

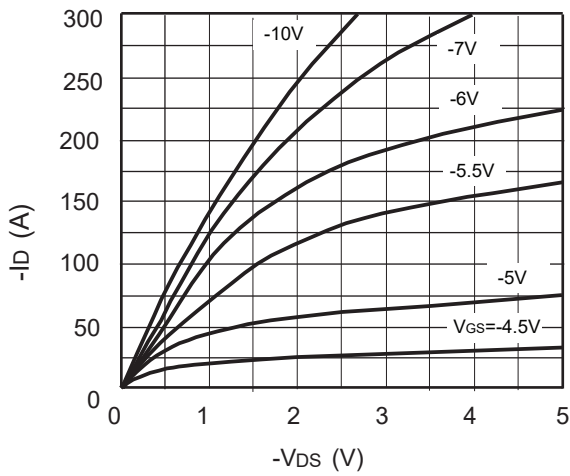
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$, $I_D=-250\mu A$	-60	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=-10V$, $I_D=-20A$	---	---	10.5	$m\Omega$
		$V_{GS}=-4.5V$, $I_D=-20A$	---	---	12.5	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=-250\mu A$	-1	---	-3	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=-60V$, $V_{GS}=0V$	---	---	-1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V$, $V_{DS}=0V$	---	---	± 100	nA
g_{fs}	Forward Transconductance	$V_{DS}=-10V$, $I_D=-10A$	---	46	---	S
R_g	Gate Resistance	$V_{DS}=0V$, $V_{GS}=0V$, $f=1MHz$	---	4.7	---	Ω
Q_g	Total Gate Charge	$V_{DS}=-30V$, $I_D=-20A$ $V_{GS}=-10V$	---	56	---	nC
Q_{gs}	Gate-Source Charge		---	12	---	
Q_{gd}	Gate-Drain Charge		---	10	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=-30V$, $V_{GEN}=-10V$, $R_g=3\Omega$, $I_D\approx -20A$	---	5	---	ns
T_r	Rise Time		---	3	---	
$T_{d(off)}$	Turn-Off Delay Time		---	15	---	
T_f	Fall Time		---	4	---	
C_{iss}	Input Capacitance	$V_{DS}=-15V$, $V_{GS}=0V$, $f=1MHz$	---	11000	---	pF
C_{oss}	Output Capacitance		---	700	---	
C_{rss}	Reverse Transfer Capacitance		---	360	---	

Diode Characteristics

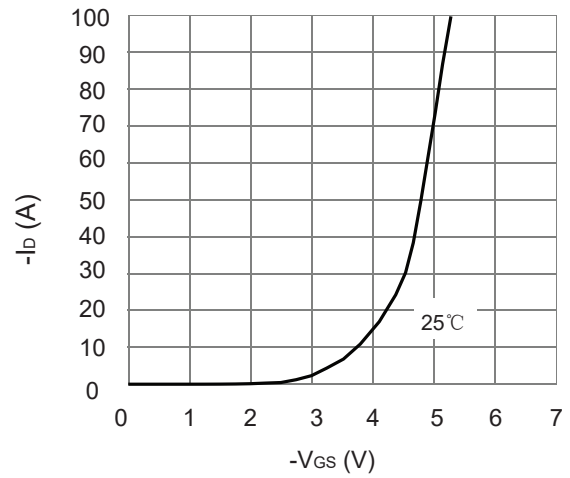
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
t_{rr}	Reverse Recovery Time	$I_S=-8A$ $dI/dt=-100A/\mu s$	---	60	---	ns
Q_{rr}	Reverse Recovery Charge		---	150	---	nC
V_{SD}	Diode Forward Voltage	$V_{GS}=0V$, $I_S=-20A$	---	---	-1.2	V

This product has been designed and qualified for the consumer market.
 Cmos assumes no liability for customers' product design or applications.
 Cmos reserves the right to improve product design ,functions and reliability without notice.

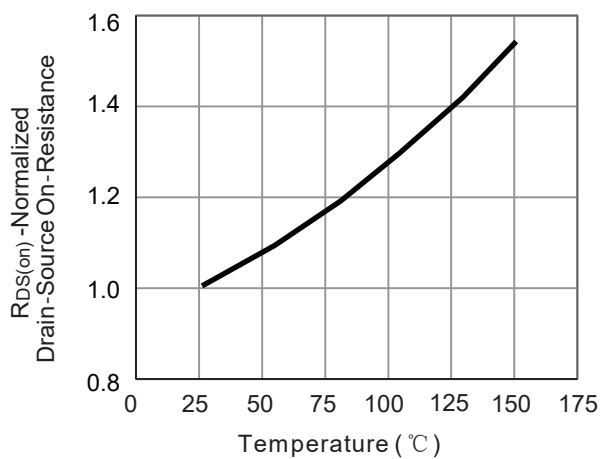
Typical Characteristics



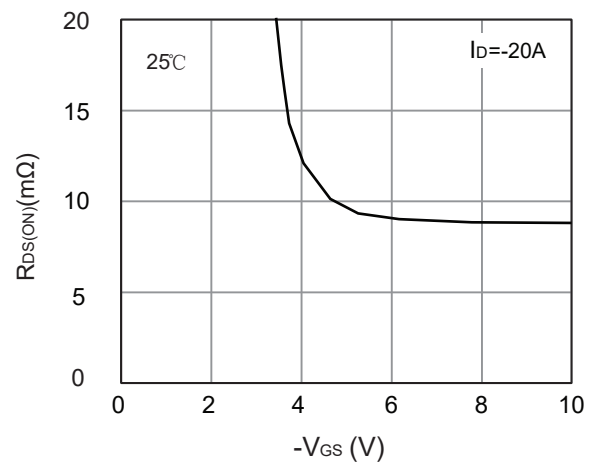
On-Region Characteristics



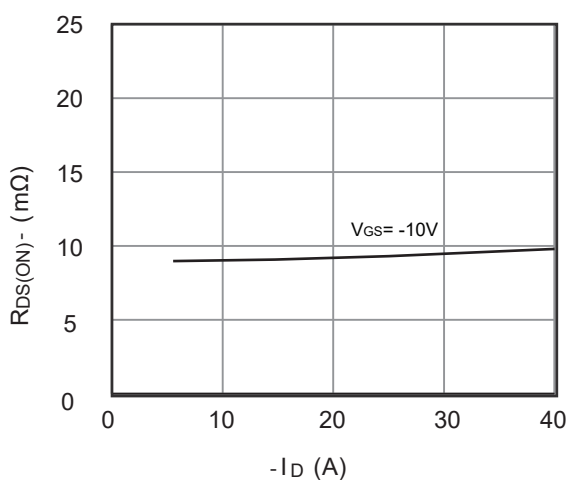
transfer characteristics



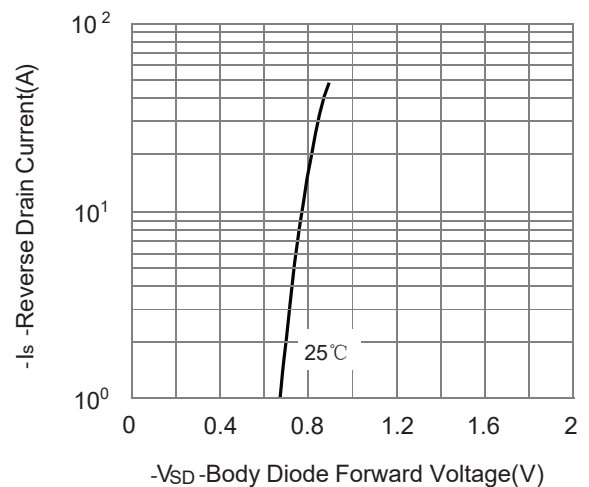
On-Resistance vs. Junction Temperature



On-Resistance vs. Gate-Source Voltage

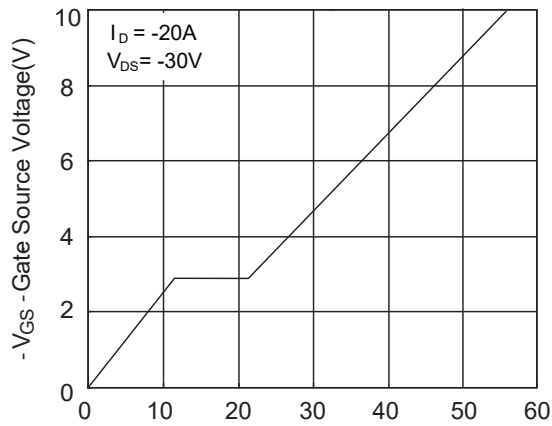


On-Resistance VS. Drain Current

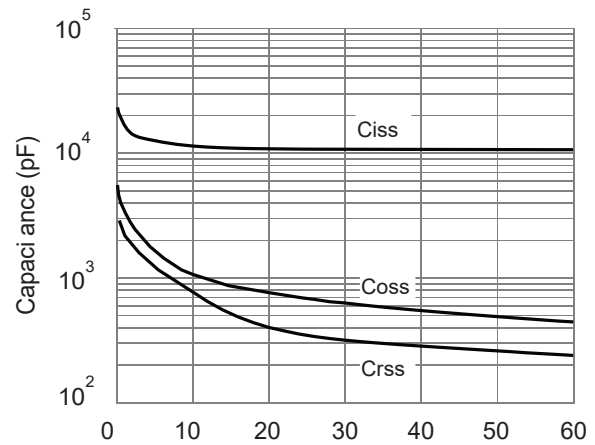


Body-Diode Characteristics

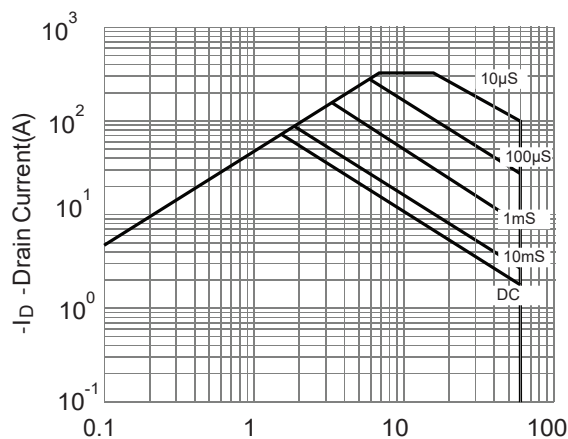
Typical Characteristics



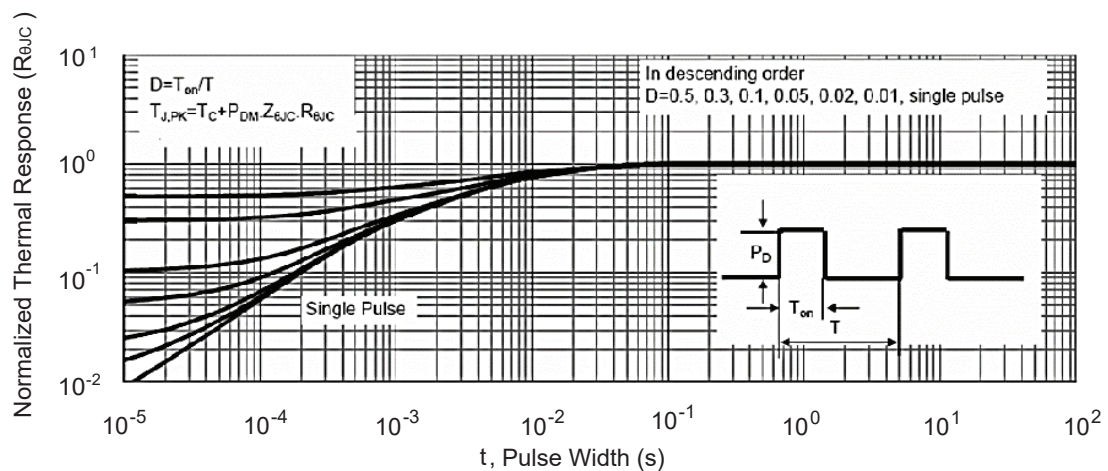
Qg - Gate charge (nC)
Gate Charge Characteristics



-V_DS, Drain-Source Voltage (V)
Capacitance Characteristics



-V_DS - Drain-Source Voltage (V)
Safe Operating Area



Normalized Maximum Transient Thermal Impedance