

General Description

This MOSFET utilizes a unique structure that combines the benefits of low on-resistance with fast switching speed, making it ideal for high-efficiency power management applications

Features

- RDS(ON)<110mΩ @ VGS=10V
- Fast Switching
- RoHS Compliant
- Low On-Resistance

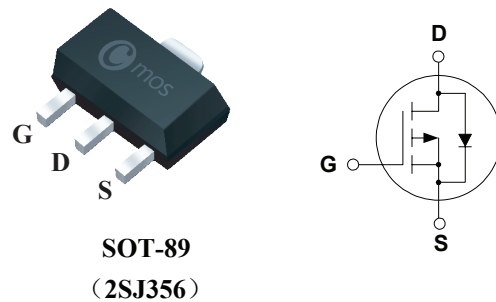
Product Summary

BVDSS	RDSON	ID
-60V	110mΩ	-3.5A

Applications

- DC-DC converters
- Power management functions
- Load switch

SOT-89 Pin Configuration



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V _{DS}	Drain-Source Voltage	-60	V
V _{GS}	Gate-Source Voltage	±16	V
I _D	Continuous Drain Current	-3.5	A
I _{DM}	Pulsed Drain Current	-10.5	A
P _D @T _C =25°C	Total Power Dissipation	1.3	W
T _{STG}	Storage Temperature Range	150	°C
T _J	Operating Junction Temperature Range	-55 to 150	°C

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
R _{θJA}	Thermal Resistance Junction-ambient	---	100	°C/W

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	$V_{GS}=-10V$, $I_D=-1A$	---	---	110	m Ω
		$V_{GS}=-4.5V$, $I_D=-1A$	---	---	150	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=-250\mu A$	-2	---	-3	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=-60V$, $V_{GS}=0V$, $T_J=25^{\circ}\text{C}$	---	---	-1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 16V$, $V_{DS}=0V$	---	---	± 100	nA
g_{fs}	Forward Transconductance	$V_{DS}=-5V$, $I_D=-1A$	---	4	---	S
R_g	Gate Resistance	$V_{DS}=0V$, $V_{GS}=0V$, $f=1\text{MHz}$	---	10	---	Ω
Q_g	Total Gate Charge	$V_{DS}=-30V$, $V_{GS}=-10V$, $I_D=-3.5A$	---	13	---	nC
Q_{gs}	Gate-Source Charge		---	3	---	
Q_{gd}	Gate-Drain Charge		---	3	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=-30V$, $V_{GS}=-10V$ $I_D=-1A$, $R_G=6\Omega$	---	15	---	ns
T_r	Rise Time		---	5	---	
$T_{d(off)}$	Turn-Off Delay Time		---	40	---	
T_f	Fall Time		---	15	---	
C_{iss}	Input Capacitance	$V_{DS}=-30V$, $V_{GS}=0V$, $f=1\text{MHz}$	---	800	---	pF
C_{oss}	Output Capacitance		---	90	---	
C_{riss}	Reverse Transfer Capacitance		---	85	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_{SD}	Diode Forward Voltage	$V_{GS}=0V$, $I_S=-1A$	---	---	1.2	V

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