

General Description

The 5951 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	-100	V
V_{GS}	Gate-Source Voltage	± 20	V
$I_D@T_C=25^\circ C$	Continuous Drain Current	-30	A
I_{DM}	Pulsed Drain Current	-90	A
E_{AS}	Single Pulse Avalanche Energy	270	mJ
$P_D@T_C=25^\circ C$	Total Power Dissipation	120	W
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ C$
T_J	Operating Junction Temperature Range	150	$^\circ C$

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	50	$^\circ C/W$
$R_{\theta JC}$	Thermal Resistance Junction-case	---	1.25	$^\circ C/W$

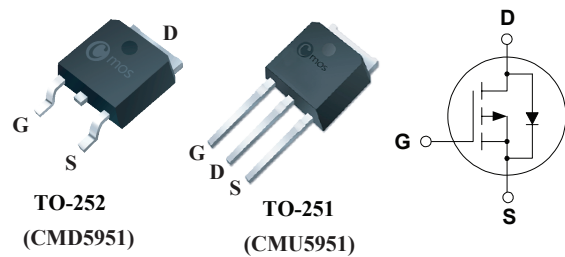
Product Summary

BVDSS	RDSON	ID
-100V	65m Ω	-30A

Applications

- Inverters
- Motor drive
- DC / DC converter

TO-252/251 Pin Configuration



Electrical Characteristics (T_J=25 °C, unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =-250uA	-100	---	---	V
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =-10V, I _D =-20A	---	50	65	mΩ
		V _{GS} =-4.5V, I _D =-10A	---	55	70	
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =-250 uA	-2	---	-4	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} =-100V, V _{GS} =0V	---	---	-1	uA
I _{GSS}	Gate-Source Leakage Current	V _{GS} =±20V, V _{DS} =0V	---	---	±100	nA
g _{fs}	Forward Transconductance	V _{DS} =-15V, I _D =-10A	---	16	---	S
Q _g	Total Gate Charge	I _D = -15A	---	90	---	nC
Q _{gs}	Gate-Source Charge	V _{DS} = -50V	---	15	---	
Q _{gd}	Gate-Drain Charge	V _{GS} = -10V	---	35	---	
T _{d(on)}	Turn-On Delay Time	V _{DD} = -50V	---	20	---	ns
T _r	Rise Time	I _D = -15A	---	80	---	
T _{d(off)}	Turn-Off Delay Time	R _{GEN} = 9.1Ω	---	45	---	
T _f	Fall Time	V _{GS} = -10V	---	65	---	
C _{iss}	Input Capacitance	V _{DS} = -25V, V _{GS} = 0V, f = 1MHz	---	5500	---	pF
C _{oss}	Output Capacitance		---	750	---	
C _{riss}	Reverse Transfer Capacitance		---	400	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
t _{rr}	Reverse Recovery Time	I _S = -15A	---	90	---	ns
Q _{rr}	Reverse Recovery Charge	dI/dt = -100A/μs	---	70	---	nC
V _{SD}	Diode Forward Voltage	V _{GS} = 0V, I _S = -15A	---	---	-1.2	V

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