

General Description

The 5950A 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.
- 100% avalanche tested
- RoHS Compliant

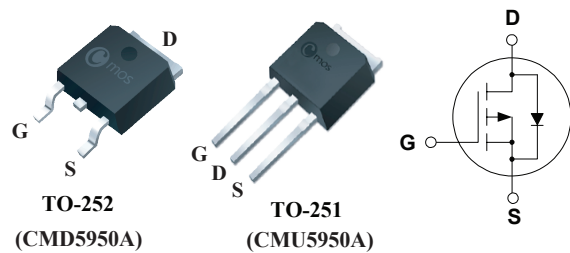
Product Summary

BVDSS	RDSON	ID
-100V	52mΩ	-33A

Applications

- Inverters
- Motor drive
- DC / DC converter

TO-252/251 Pin Configuration



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	-100	V
V_{GS}	Gate-Source Voltage	±20	V
$I_D@T_C=25^\circ\text{C}$	Continuous Drain Current	-33	A
$I_D@T_C=100^\circ\text{C}$	Continuous Drain Current	-23	A
I_{DM}	Pulsed Drain Current	-132	A
EAS	Single Pulse Avalanche Energy ¹	220	mJ
$P_D@T_C=25^\circ\text{C}$	Total Power Dissipation	50	W
T_{STG}	Storage Temperature Range	-55 to 150	°C
T_J	Operating Junction Temperature Range	150	°C

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	62.5	°C/W
$R_{\theta JC}$	Thermal Resistance Junction-case	---	2.5	°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	$V_{GS}=0V, I_D=-250\mu A$	-100	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=-10V, I_D=-10A$	---	45	52	m Ω
		$V_{GS}=-6V, I_D=-8A$	---	49	55	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}, I_D=-250\mu A$	-2	---	-4	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=-100V, V_{GS}=0V$	---	---	-1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0V$	---	---	± 100	nA
gfs	Forward Transconductance	$V_{DS}=-10V, I_D=-10A$	---	20	---	S
Q_g	Total Gate Charge	$I_D=-20A$ $V_{DS}=-50V$ $V_{GS}=-10V$	---	75	---	nC
Q_{gs}	Gate-Source Charge		---	15	---	
Q_{gd}	Gate-Drain Charge		---	16	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DS}=-50V$ $I_D=-10A$ $R_L=5.6\Omega$ $V_{GS}=-10V$	---	25	---	ns
T_r	Rise Time		---	95	---	
$T_{d(off)}$	Turn-Off Delay Time		---	310	---	
T_f	Fall Time		---	100	---	
C_{iss}	Input Capacitance	$V_{DS}=-20V, V_{GS}=0V, f=1MHz$	---	6600	---	pF
C_{oss}	Output Capacitance		---	270	---	
C_{rss}	Reverse Transfer Capacitance		---	200	---	

Diode Characteristics

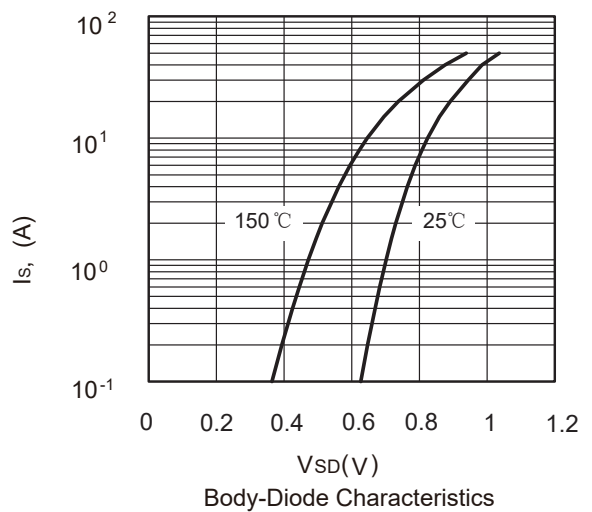
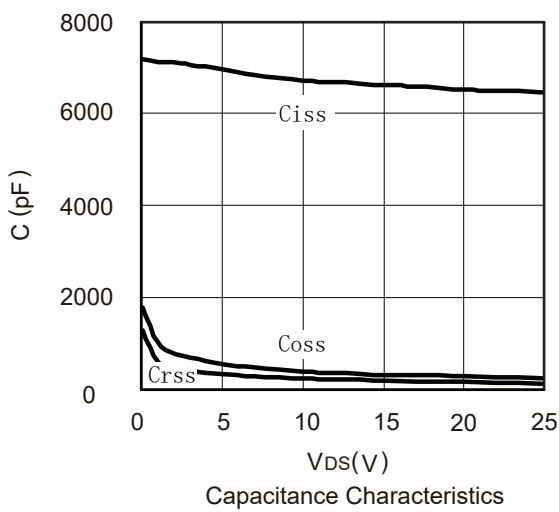
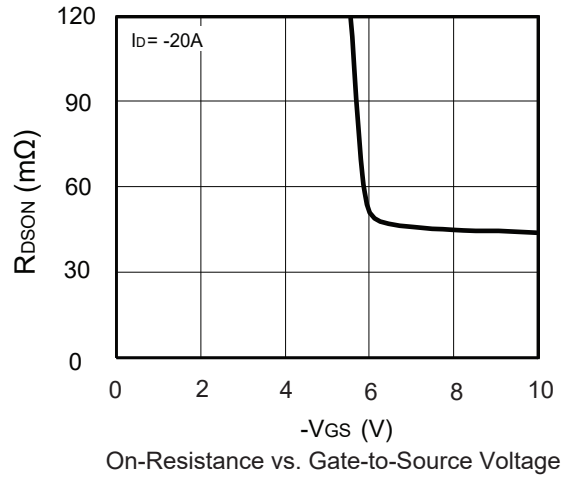
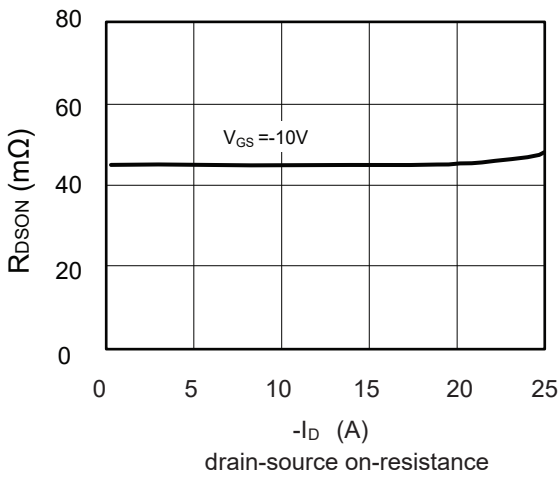
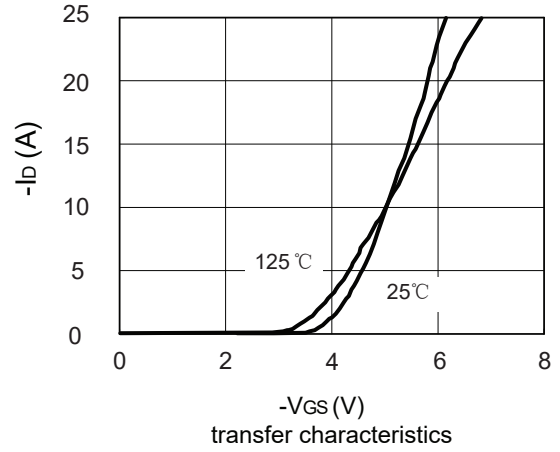
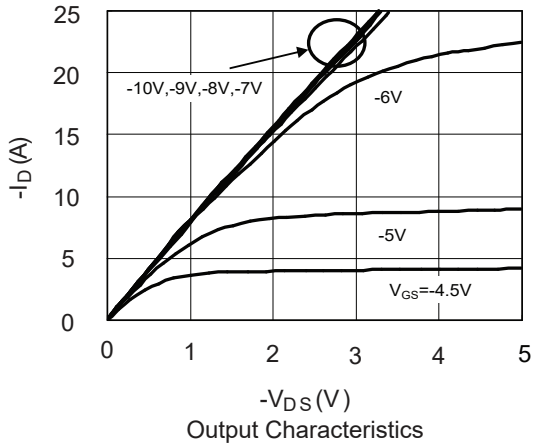
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current	$V_G=V_D=0V$, Force Current	---	---	-33	A
I_{SM}	Pulsed Source Current		---	---	-132	A
V_{SD}	Diode Forward Voltage	$V_{GS}=0V, I_S=-10A, T_J=25^\circ\text{C}$	---	-0.83	-1.2	V

Note :

1.The EAS data shows Max. rating . The test condition is $V_{DD}=-80V, V_{GS}=-10V, L=1mH, I_{AS}=-21A$.

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Typical Characteristics



Typical Characteristics

