

General Description

The 2922 uses advanced trench technology and design to provide excellent RDS(ON). This device is ideal for PWM, load switching and general purpose applications.

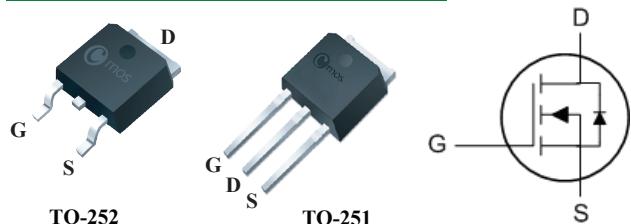
Product Summary

BVDSS	RDSON	ID
100V	128mΩ	10A

Applications

- DC-DC Converters
- Power switching application

TO-252/251 Pin Configuration



Features

- Low On-Resistance
- High Reliability Capability with Passivation
- 100% avalanche tested
- RoHS Compliant

Absolute Maximum Ratings

Type	Package	Marking
CMD2922	TO-252	CMD2922
CMU2922	TO-251	CMU2922

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	10	A
$I_D @ T_c = 100^\circ\text{C}$	Continuous Drain Current	8	A
I_{DM}	Pulsed Drain Current	30	A
EAS	Single Pulse Avalanche Energy	8	mJ
$P_D @ T_c = 25^\circ\text{C}$	Total Power Dissipation	40	W
T_{STG}	Storage Temperature Range	-55 to 150	°C
T_J	Operating Junction Temperature Range	-55 to 150	°C

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient (PCB mount) ²	---	62.5	°C/W
$R_{\theta JC}$	Thermal Resistance Junction -Case	---	3.8	°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	$\text{V}_{\text{GS}}=0\text{V}$, $\text{I}_D=250\text{uA}$	100	---	---	V
$\text{R}_{\text{DS(ON)}}$	Static Drain-Source On-Resistance	$\text{V}_{\text{GS}}=10\text{V}$, $\text{I}_D=5\text{A}$	---	---	128	$\text{m}\Omega$
		$\text{V}_{\text{GS}}=4.5\text{V}$, $\text{I}_D=3\text{A}$	---	---	140	
$\text{V}_{\text{GS(th)}}$	Gate Threshold Voltage	$\text{V}_{\text{GS}}=\text{V}_{\text{DS}}$, $\text{I}_D=250\text{uA}$	1	---	3	V
I_{DSS}	Drain-Source Leakage Current	$\text{V}_{\text{DS}}=80\text{V}$, $\text{V}_{\text{GS}}=0\text{V}$	---	---	1	uA
I_{GSS}	Gate-Source Leakage Current	$\text{V}_{\text{GS}}= \pm 20\text{V}$, $\text{V}_{\text{DS}}=0\text{V}$	---	---	± 100	nA
g_{fs}	Forward Transconductance	$\text{V}_{\text{DS}}=5\text{V}$, $\text{I}_D=15\text{A}$	---	7	---	S
R_g	Gate Resistance	$\text{V}_{\text{DS}}=0\text{V}$, $\text{V}_{\text{GS}}=0\text{V}$, $f=1\text{MHz}$	---	6.3	---	Ω
Q_g	Total Gate Charge	$\text{V}_{\text{DS}}=50\text{V}$, $\text{V}_{\text{GS}}=10\text{V}$, $\text{I}_D=10\text{A}$	---	22	---	nC
Q_{gs}	Gate-Source Charge		---	4	---	
Q_{gd}	Gate-Drain Charge		---	7	---	
$\text{T}_{\text{d(on)}}$	Turn-On Delay Time	$\text{V}_{\text{DS}}=50\text{V}$, $\text{V}_{\text{GS}}=10\text{V}$, $\text{R}_L=15\Omega$	---	12	---	ns
T_r	Rise Time		---	8	---	
$\text{T}_{\text{d(off)}}$	Turn-Off Delay Time		---	36	---	
T_f	Fall Time		---	10	---	
C_{iss}	Input Capacitance	$\text{V}_{\text{DS}}=50\text{V}$, $\text{V}_{\text{GS}}=0\text{V}$, $f=1\text{MHz}$	---	480	---	pF
C_{oss}	Output Capacitance		---	40	---	
C_{rss}	Reverse Transfer Capacitance		---	30	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_s	Continuous Source Current	$\text{V}_G=\text{V}_D=0\text{V}$, Force Current	---	---	10	A
V_{SD}	Diode Forward Voltage	$\text{V}_{\text{GS}}=0\text{V}$, $\text{I}_s=10\text{A}$, $T_J=25^\circ\text{C}$	---	---	1.2	V

Note :

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