

### General Description

The 240A have been fabricated using an advanced high voltage MOSFET process that is designed to deliver high levels of performance and robustness in popular AC-DC applications.

### Features

- $R_{DS(ON)} < 3.3\text{m}\Omega$  @  $V_{GS} = 10\text{V}$
- $R_{DS(ON)} < 4.8\text{m}\Omega$  @  $V_{GS} = 4.5\text{V}$
- Reliable and Rugged
- Lead Free

### Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
$V_{DS}$	Drain-Source Voltage	40	V
$V_{GS}$	Gate-Source Voltage	$\pm 20$	V
$I_D @ T_C = 25^\circ\text{C}$	Continuous Drain Current	80	A
$I_D @ T_C = 100^\circ\text{C}$	Continuous Drain Current	55	A
$I_{DM}$	Pulsed Drain Current	320	A
$E_{AS}$	Single Pulse Avalanche Energy	180	mJ
$P_D @ T_C = 25^\circ\text{C}$	Total Power Dissipation	160	W
$T_{STG}$	Storage Temperature Range	-55 to 175	$^\circ\text{C}$
$T_J$	Operating Junction Temperature Range	-55 to 175	$^\circ\text{C}$

### Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient (Steady-State)	---	50	$^\circ\text{C}/\text{W}$
$R_{\theta JC}$	Thermal Resistance Junction -Case(Steady-State)	---	1.12	$^\circ\text{C}/\text{W}$

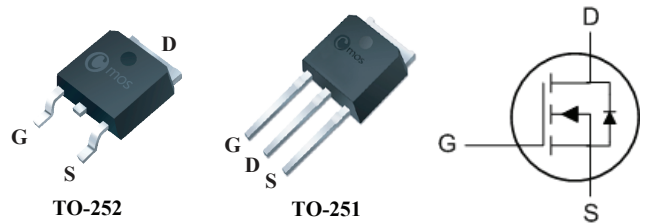
### Product Summary

BVDSS	RDSON	ID
40V	3.3m $\Omega$	80A

### Applications

- Power Management in Note book
- LCD Display inverter
- DC/DC converter
- Load Switch

### TO-252/251 Pin Configuration



Type	Package	Marking
CMD240A	TO-252	CMD240A
CMU240A	TO-251	CMU240A

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	40	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10V, I_D=30A$	---	---	3.3	m $\Omega$
		$V_{GS}=4.5V, I_D=20A$	---	---	4.8	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}, I_D=250\mu A$	1	---	3	V
$I_{DSS}$	Drain-Source Leakage Current	$V_{DS}=30V, V_{GS}=0V, T_J=25^\circ\text{C}$	---	---	1	$\mu A$
$I_{GSS}$	Gate-Source Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0V$	---	---	$\pm 100$	nA
$g_{fs}$	Forward Transconductance	$V_{DS}=15V, I_D=11A$	---	20	---	S
$R_g$	Gate Resistance	$V_{DS}=0V, V_{GS}=0V, f=1\text{MHz}$	---	2.3	---	$\Omega$
$Q_g$	Total Gate Charge	$V_{DS}=20V, V_{GS}=10V, I_D=80A$	---	42	---	nC
$Q_{gs}$	Gate-Source Charge		---	16	---	
$Q_{gd}$	Gate-Drain Charge		---	12	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=20V, V_{GS}=10V, R_G=4.7\Omega, I_D=40A$	---	20	---	ns
$T_r$	Rise Time		---	18	---	
$T_{d(off)}$	Turn-Off Delay Time		---	27	---	
$T_f$	Fall Time		---	14	---	
$C_{iss}$	Input Capacitance	$V_{DS}=20V, V_{GS}=0V, f=1\text{MHz}$	---	6300	---	pF
$C_{oss}$	Output Capacitance		---	890	---	
$C_{rss}$	Reverse Transfer Capacitance		---	60	---	

### Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$V_{SD}$	Diode Forward Voltage	$V_{GS}=0V, I_{SD}=28A$	---	---	1	V

Note :

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.