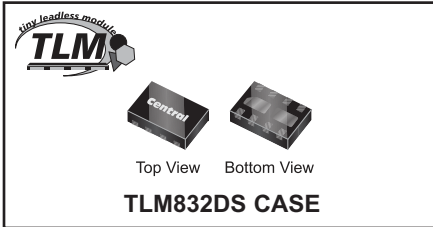


**CTLDM303N-M832DS**

**SURFACE MOUNT  
DUAL N-CHANNEL  
ENHANCEMENT-MODE  
SILICON MOSFET**



www.centrasemi.com



**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CTLDM303N-M832DS is a dual enhancement-mode N-Channel silicon MOSFET designed for high speed pulsed amplifier and driver applications. This energy efficient MOSFET offers beneficially low  $r_{DS(ON)}$ , low gate charge, and low threshold voltage.

**MARKING CODE: C330**

**APPLICATIONS:**

- DC-DC converters
- Drive circuits
- Power management

**FEATURES:**

- Low  $r_{DS(ON)}$  (0.078Ω MAX @  $V_{GS}=2.5V$ )
- High current ( $I_D=3.6A$ )
- Low gate charge

**MAXIMUM RATINGS:** ( $T_A=25^\circ C$ )

Drain-Source Voltage	$V_{DS}$	30	V
Gate-Source Voltage	$V_{GS}$	12	V
Continuous Drain Current (Steady State)	$I_D$	3.6	A
Maximum Pulsed Drain Current, $t_p=10\mu s$	$I_{DM}$	14.4	A
Power Dissipation	$P_D$	1.65	W
Operating and Storage Junction Temperature	$T_J, T_{stg}$	-55 to +150	$^\circ C$
Thermal Resistance (Note 1)	$\theta_{JA}$	76	$^\circ C/W$

**SYMBOL**

SYMBOL	UNITS
$V_{DS}$	V
$V_{GS}$	V
$I_D$	A
$I_{DM}$	A
$P_D$	W
$T_J, T_{stg}$	$^\circ C$
$\theta_{JA}$	$^\circ C/W$

**ELECTRICAL CHARACTERISTICS PER TRANSISTOR:** ( $T_A=25^\circ C$  unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{GSSF}, I_{GSSR}$	$V_{GS}=12V, V_{DS}=0$			10	$\mu A$
$I_{DSS}$	$V_{DS}=20V, V_{GS}=0$			1.0	$\mu A$
$BV_{DSS}$	$V_{GS}=0, I_D=250\mu A$	30			V
$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=250\mu A$	0.6		1.2	V
$r_{DS(ON)}$	$V_{GS}=4.5V, I_D=1.8A$		0.033	0.04	$\Omega$
$r_{DS(ON)}$	$V_{GS}=2.5V, I_D=1.8A$		0.042	0.078	$\Omega$
$Q_g(tot)$	$V_{DD}=10V, V_{GS}=4.5V, I_D=3.6A$		5.0	13	nC
$Q_{gs}$	$V_{DD}=10V, V_{GS}=4.5V, I_D=3.6A$		0.9	1.4	nC
$Q_{gd}$	$V_{DD}=10V, V_{GS}=4.5V, I_D=3.6A$		1.0	2.7	nC
$g_{FS}$	$V_{DS}=5.0V, I_D=3.6A$		11.8		S
$C_{rSS}$	$V_{DS}=10V, V_{GS}=0, f=1.0MHz$		55		pF
$C_{iSS}$	$V_{DS}=10V, V_{GS}=0, f=1.0MHz$		590		pF
$C_{OSS}$	$V_{DS}=10V, V_{GS}=0, f=1.0MHz$		50		pF
$t_{on}$	$V_{DD}=10V, V_{GS}=4.0V, I_D=3.6A, R_G=10\Omega$		15		ns
$t_{off}$	$V_{DD}=10V, V_{GS}=4.0V, I_D=3.6A, R_G=10\Omega$		29		ns

Notes: (1) FR-4 Epoxy PCB with copper mounting pad area of 54mm<sup>2</sup>

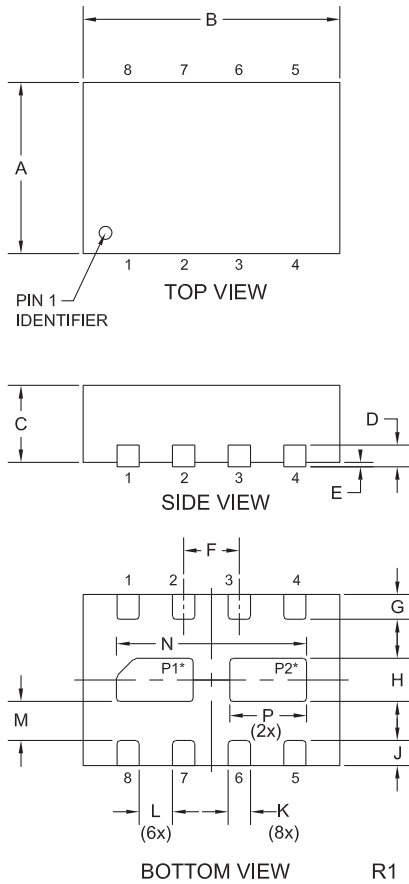
R2 (8-October 2012)

CTLDM303N-M832DS

**SURFACE MOUNT  
DUAL N-CHANNEL  
ENHANCEMENT-MODE  
SILICON MOSFET**



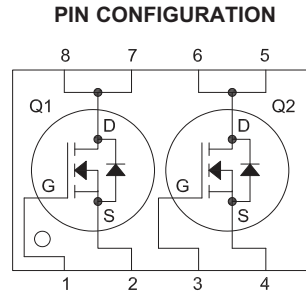
**TLM832DS CASE - MECHANICAL OUTLINE**



\* Exposed pad P1 common to pins 7 and 8  
Exposed pad P2 common to pins 5 and 6

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.077	0.081	1.95	2.05
B	0.116	0.120	2.95	3.05
C	0.031	0.039	0.80	1.00
D	0.006	0.010	0.16	0.25
E	0.000	0.002	0.00	0.05
F	0.026		0.65	
G	0.008	0.016	0.19	0.40
H	0.014	0.024	0.35	0.61
J	0.008	0.016	0.19	0.40
K	0.008	0.012	0.21	0.31
L	0.013	0.017	0.34	0.44
M	0.006	—	0.15	—
N	0.087		2.22	
P	0.029	0.039	0.74	1.00

TLM832DS (REV:R1)



**LEAD CODE:**

- 1) Gate Q1
- 2) Source Q1
- 3) Gate Q2
- 4) Source Q2
- 5) Drain Q2
- 6) Drain Q2
- 7) Drain Q1
- 8) Drain Q1

**MARKING CODE: C330**

R2 (8-October 2012)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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### CONTACT US

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For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: [www.centrasemi.com/terms](http://www.centrasemi.com/terms)



<http://www.centrasemi.com>

# Product End of Life Notification

<b>PDN ID:</b>	PDN01077
<b>Notification Date:</b>	4/05/18
<b>Last Buy Date:</b>	N/A
<b>Last Shipment Date</b>	N/A

Please be advised that Central Semiconductor must immediately discontinue the product(s) listed in the attached PDN notice. We are unable to accept any further orders for these products **unless** we have available inventory on hand.

You may have purchased one or more of the products listed. Please do not hesitate to contact your local Central Semiconductor sales representative with any questions or needs you may have. Central regrets any inconvenience this may cause.

Sincerely,

Central Semiconductor Corp.

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DISCLAIMER: This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor Corp. will make every effort to offer life-time buy (LTB) opportunities and/or offer replacement devices to existing customers for discontinued devices, however, one or both may not be possible for all devices. Please contact your local Central Semiconductor sales representative for LTB opportunities/additional information.



<http://www.centralsemi.com>

# Product End of Life Notification

<b>PDN ID:</b>	PDN01077
<b>Notification Date:</b>	4/05/18
<b>Last Buy Date:</b>	N/A
<b>Last Shipment Date</b>	N/A

Summary: The following devices in the TLM832DS package are being discontinued and are now classified as End of Life (EOL).

Although Central Semiconductor Corp. makes every effort to continue to produce devices that have been proclaimed EOL (End of Life) by various manufacturers, it is an accepted industry practice to discontinue certain devices when customer demand falls below a minimum level of sustainability. Accordingly, the following product(s) have been transitioned to End of Life status as part of Central's Product Management Process. Any replacement product will be noted below. The effective date for placing the last purchase order will be six(6) months from the date of this notice and twelve(12) months from the notice date for final shipments; this may be extended if inventory is available.

<u>Central Part Number</u>	<u>Replacement</u>
CTLDM303N-M832DS BK	N/A
CTLDM303N-M832DS TR	N/A
CTLDM304P-M832DS TR	N/A
CTLDM7120-M832DS BK	N/A
CTLDM7120-M832DS TR	N/A
CTLDM8120-M832DS BK	N/A
CTLDM8120-M832DS TR	N/A
CTLSH1-40M832DS BK	N/A
CTLSH1-40M832DS TR	N/A
CTLSH1-50M832DS BK	N/A
CTLSH1-50M832DS TR	N/A

Central would be happy to assist you by providing additional information or technical data to help locate an alternate source if we have no replacement available. Please email your requests to [engineering@centralsemi.com](mailto:engineering@centralsemi.com).

DISCLAIMER: This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor Corp. will make every effort to offer life-time buy (LTB) opportunities and/or offer replacement devices to existing customers for discontinued devices, however, one or both may not be possible for all devices. Please contact your local Central Semiconductor sales representative for LTB opportunities/additional information.