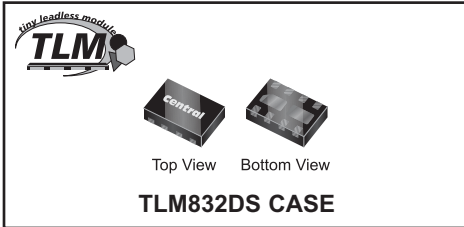


CTLDM8120-M832DS

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



www.centrasemi.com



DESCRIPTION:

The CENTRAL SEMICONDUCTOR CTLDM8120-M832DS is an Enhancement-mode Dual P-Channel MOSFET, manufactured by the P-Channel DMOS Process, designed for high speed pulsed amplifier and driver applications. This MOSFET offers Low $r_{DS(ON)}$ and Low Threshold Voltage.

MARKING CODE: CFVS

APPLICATIONS:

- Switching Circuits
- DC-DC Converters
- Battery powered portable devices

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

Drain-Source Voltage
Gate-Source Voltage
Continuous Drain Current (Steady State)
Continuous Drain Current, $t \leq 5.0\text{s}$
Continuous Source Current (Body Diode)
Maximum Pulsed Drain Current, $t_p=10\mu\text{s}$
Maximum Pulsed Source Current, $t_p=10\mu\text{s}$
Power Dissipation (Note 1)
Operating and Storage Junction Temperature
Thermal Resistance (Note 1)

FEATURES:

- ESD protection up to 2kV
- Low $r_{DS(ON)}$ (0.24 Ω MAX @ $V_{GS}=1.8\text{V}$)
- High current ($I_D=0.95\text{A}$)
- Logic level compatibility

SYMBOL		UNITS
V_{DS}	20	V
V_{GS}	8.0	V
I_D	0.86	A
I_D	0.95	A
I_S	0.36	A
I_{DM}	4.0	A
I_{SM}	4.0	A
P_D	1.65	W
T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
θ_{JA}	76	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{GSSF}, I_{GSSR}	$V_{GS}=8.0\text{V}, V_{DS}=0$		1.0	50	nA
I_{DSS}	$V_{DS}=20\text{V}, V_{GS}=0$		5.0	500	nA
BV_{DSS}	$V_{GS}=0, I_D=250\mu\text{A}$	20	24		V
$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	0.45	0.76	1.0	V
V_{SD}	$V_{GS}=0, I_S=360\text{mA}$			0.9	V
$r_{DS(ON)}$	$V_{GS}=4.5\text{V}, I_D=0.95\text{A}$		0.085	0.150	Ω
$r_{DS(ON)}$	$V_{GS}=4.5\text{V}, I_D=0.77\text{A}$		0.085	0.142	Ω
$r_{DS(ON)}$	$V_{GS}=2.5\text{V}, I_D=0.67\text{A}$		0.130	0.200	Ω
$r_{DS(ON)}$	$V_{GS}=1.8\text{V}, I_D=0.2\text{A}$		0.190	0.240	Ω
$Q_{g(tot)}$	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=1.0\text{A}$		3.56		nC
Q_{gs}	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=1.0\text{A}$		0.36		nC
Q_{gd}	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=1.0\text{A}$		1.52		nC
g_{FS}	$V_{DS}=10\text{V}, I_D=810\text{mA}$	2.0			S
C_{rss}	$V_{DS}=16\text{V}, V_{GS}=0, f=1.0\text{MHz}$		80		pF
C_{iss}	$V_{DS}=16\text{V}, V_{GS}=0, f=1.0\text{MHz}$		200		pF
C_{oss}	$V_{DS}=16\text{V}, V_{GS}=0, f=1.0\text{MHz}$		60		pF
t_{on}	$V_{DD}=10\text{V}, V_{GS}=4.5\text{V}, I_D=0.95\text{A}, R_G=6.0\Omega$		20		ns
t_{off}	$V_{DD}=10\text{V}, V_{GS}=4.5\text{V}, I_D=0.95\text{A}, R_G=6.0\Omega$		25		ns

Notes: (1) FR-4 Epoxy PCB with copper mounting pad area of 54mm²

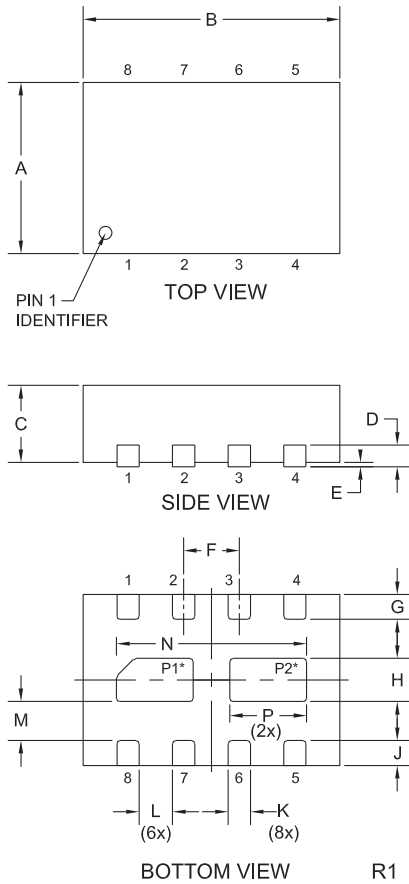
R0 (2-March 2012)

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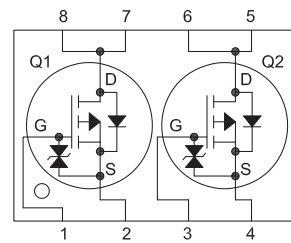
TLM832DS CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS		DIMENSIONS	
	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)

PIN CONFIGURATION



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: CFVS

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

R0 (2-March 2012)