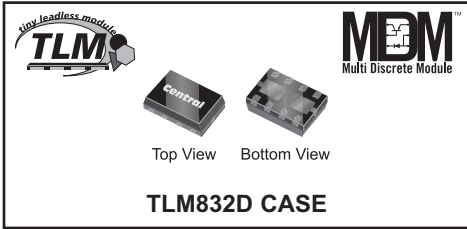


CTLM1034-M832D
MULTI DISCRETE MODULE™
SURFACE MOUNT SILICON
LOW $V_{CE(SAT)}$ NPN TRANSISTOR
AND
LOW V_F SCHOTTKY RECTIFIER



www.centrasemi.com



DESCRIPTION:

The CENTRAL SEMICONDUCTOR CTLM1034-832D consists of a Low $V_{CE(SAT)}$ NPN Transistor and Low V_F Schottky Rectifier. Packaged in a small, thermally efficient, leadless 3x2mm surface mount case, it is designed for applications where small size, operational efficiency, and low energy consumption are the prime requirements. Due to its leadless package design this device is capable of dissipating up to 4 times the power of similar devices in comparable sized surface mount packages.

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APPLICATIONS

- Switching Circuits
- DC / DC Converters
- LCD Backlighting
- Battery powered / Portable Equipment applications including Cell Phones, Digital Cameras, Pagers, PDAs, Notebook PCs, etc.

FEATURES

- Dual Chip Device
- High Current (1.0A) Transistor and Schottky Rectifier
- Low $V_{CE(SAT)}$ NPN Transistor (450mV @ $I_C=1.0A$ MAX)
- Low V_F Schottky Rectifier (550mV @ 1.0A MAX)
- High Power to Footprint Ratio of 275mW per sq mm (Package Power Dissipation / Package Surface Area)
- Small TLM 3x2mm Leadless Surface Mount Package
- Complementary Device: CTLM1074-M832D

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

Power Dissipation (Note 1)
 Operating and Storage Junction Temperature
 Thermal Resistance

SYMBOL

P_D	1.65	W
T_J, T_{stg}	-65 to +150	$^\circ C$
θ_{JA}	76	$^\circ C/W$

UNITS

MAXIMUM RATINGS - Q1: ($T_A=25^\circ C$)

Collector-Base Voltage
 Collector-Emitter Voltage
 Emitter-Base Voltage
 Continuous Collector Current

V_{CBO}	40	V
V_{CEO}	25	V
V_{EBO}	6.0	V
I_C	1.0	A

MAXIMUM RATINGS - D1: ($T_A=25^\circ C$)

Peak Repetitive Reverse Voltage
 Continuous Forward Current
 Peak Repetitive Forward Current, $t_p \leq 1.0ms$
 Peak Forward Surge Current, $t_p = 8.0ms$

V_{RRM}	40	V
I_F	1.0	A
I_{FRM}	3.5	A
I_{FSM}	10	A

ELECTRICAL CHARACTERISTICS - Q1: ($T_A=25^\circ C$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CBO}	$V_{CB}=40V$			100	nA
I_{EBO}	$V_{EB}=6.0V$			100	nA
BV_{CBO}	$I_C=100\mu A$	40			V
BV_{CEO}	$I_C=10mA$	25			V
BV_{EBO}	$I_E=100\mu A$	6.0			V
$V_{CE(SAT)}$	$I_C=50mA, I_B=5.0mA$		20	50	mV
$V_{CE(SAT)}$	$I_C=100mA, I_B=10mA$		35	75	mV

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

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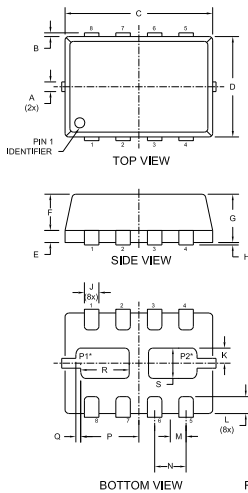
ELECTRICAL CHARACTERISTICS - Q1- Continued: ($T_A=25^\circ\text{C}$)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$V_{CE(SAT)}$	$I_C=200\text{mA}, I_B=20\text{mA}$		75	150	mV
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		130	250	mV
$V_{CE(SAT)}$	$I_C=800\text{mA}, I_B=80\text{mA}$		200	400	mV
$V_{CE(SAT)}$	$I_C=1.0\text{A}, I_B=100\text{mA}$		250	450	mV
$V_{BE(SAT)}$	$I_C=800\text{mA}, I_B=80\text{mA}$			1.1	V
$V_{BE(ON)}$	$V_{CE}=1.0\text{V}, I_C=10\text{mA}$			0.9	V
h_{FE}	$V_{CE}=1.0\text{V}, I_C=10\text{mA}$	100			
h_{FE}	$V_{CE}=1.0\text{V}, I_C=100\text{mA}$	100		300	
h_{FE}	$V_{CE}=1.0\text{V}, I_C=500\text{mA}$	100			
h_{FE}	$V_{CE}=1.0\text{V}, I_C=1.0\text{A}$	50			
f_T	$V_{CE}=10\text{V}, I_C=50\text{mA}, f=100\text{MHz}$	100			MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$			10	pF

ELECTRICAL CHARACTERISTICS - D1: ($T_A=25^\circ\text{C}$)

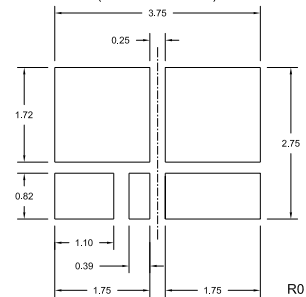
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_R	$V_R=5.0\text{V}$			10	μA
I_R	$V_R=8.0\text{V}$			20	μA
I_R	$V_R=15\text{V}$			50	μA
BV_R	$I_R=100\mu\text{A}$	40			V
V_F	$I_F=10\text{mA}$			0.29	V
V_F	$I_F=100\text{mA}$			0.36	V
V_F	$I_F=500\text{mA}$			0.45	V
V_F	$I_F=1.0\text{A}$			0.55	V
C_J	$V_R=4.0\text{V}, f=1.0\text{MHz}$		50		pF

TLM832D CASE - MECHANICAL OUTLINE



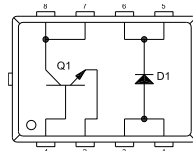
SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.007	0.012	0.170	0.300
B	-	0.005	-	0.125
C	0.114	0.122	2.900	3.100
D	0.075	0.083	1.900	2.100
E	0.006	0.010	0.150	0.250
F	0.026	0.030	0.650	0.750
G	0.031	0.039	0.800	1.000
H	0.000	0.002	0.000	0.050
J	0.009	0.013	0.240	0.340
K	0.006	0.014	0.160	0.360
L	0.008	0.018	0.200	0.450
M	0.013		0.325	
N	0.026		0.650	
P	0.040	0.048	1.010	1.210
Q	0.004		0.100	
R	0.032	0.040	0.820	1.020
S	0.017	0.025	0.430	0.630

SUGGESTED MOUNTING PADS
For Maximum Power Dissipation
(Dimensions in mm)



For standard mounting refer to TLM832D Package Details

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



LEAD CODE:

- | | |
|---------------|-----------------|
| 1) Base Q1 | 5) Cathode D1 |
| 2) Emitter Q1 | 6) Cathode D1 |
| 3) Anode D1 | 7) Collector Q1 |
| 4) Anode D1 | 8) Collector Q1 |

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