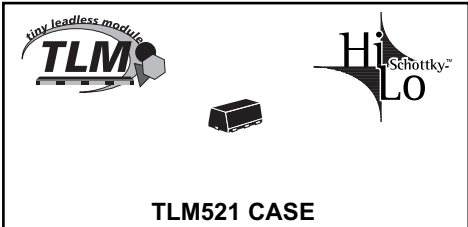


PRELIMINARY

**CTLSH05-2M521HL**  
**SURFACE MOUNT**  
**ULTRA LOW  $V_F$**   
**SILICON**  
**SCHOTTKY DIODE**  
**TINY LEADLESS MODULE™**



**MARKING CODE: CF**

# Central™

## Semiconductor Corp.

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CTLSH05-2M521HL is a high performance HiLo™ 0.5A Schottky diode designed for applications where small size and operational efficiency are the prime requirements. With a maximum power dissipation of 0.90W, and a very small package footprint (comparable to the SOT-563), this leadless package design is capable of dissipating over 3 times the power of similar devices in comparable sized surface mount packages.

**FEATURES:**

- HiLo™ Device Characteristics (High Current/Low  $V_F$ )
- Ultra Low Forward Voltage Drop ( $V_F=0.39V$  Typ. @ 0.5A)
- High Thermal Efficiency
- Small TLM 2x1mm case

**APPLICATIONS:**

- DC/DC Converters
- Voltage Clamping
- Protection Circuits
- Battery Powered Portable Equipment

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

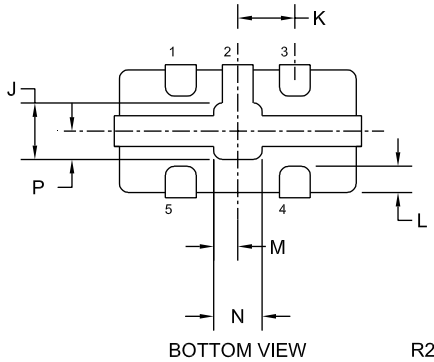
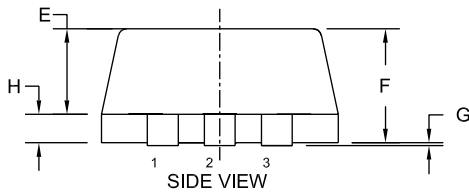
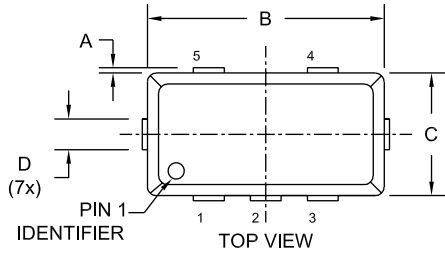
	SYMBOL		UNITS
Continuous Reverse Voltage	$V_R$	20	V
Average Forward Current	$I_F$	0.5	A
Power Dissipation	$P_D$	0.9	W*
Peak Forward Surge Current (8.3ms)	$I_{FSM}$	3.0	A
Operating and Storage Junction Temperature	$T_J, T_{stg}$	-65 to +150	$^\circ C$
Thermal Resistance	$\theta_{JA}$	139	$^\circ C/W^*$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_R$	$V_R=10V$		0.2	1.0	mA
$BV_R$	$I_R=1.0mA$	20			V
$V_F$	$I_F=100\mu A$		0.030	0.060	V
$V_F$	$I_F=500\mu A$		0.065	0.100	V
$V_F$	$I_F=10mA$		0.145	0.200	V
$V_F$	$I_F=100mA$		0.235	0.280	V
$V_F$	$I_F=200mA$		0.280	0.330	V
$V_F$	$I_F=500mA$		0.390	0.460	V
$C_T$				TBD	pF

\* FR-4 Epoxy PCB with copper mounting pad area of 33mm<sup>2</sup>.

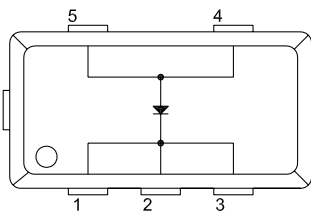
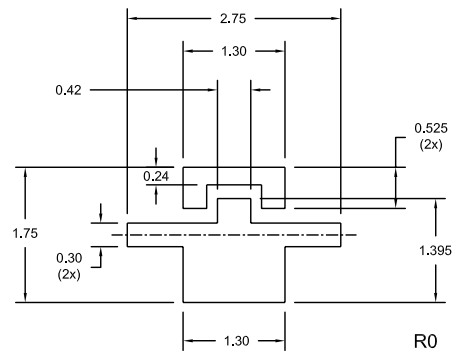
**TLM521 CASE - MECHANICAL OUTLINE**



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	--	0.005	--	0.125
B	0.075	0.083	1.900	2.100
C	0.035	0.043	0.900	1.100
D	0.007	0.012	0.170	0.300
E	0.026	0.030	0.650	0.750
F	0.031	0.039	0.800	1.000
G	0.000	0.002	0.000	0.050
H	0.006	0.010	0.150	0.250
J	0.013	0.021	0.330	0.530
K	0.020		0.500	
L	0.004	0.014	0.100	0.350
M	0.002	0.010	0.060	0.260
N	0.009	0.017	0.220	0.420
P	0.005	0.013	0.120	0.320

TLM521 (REV: R2)

Suggested mounting pad layout  
for maximum power dissipation  
(Dimensions in mm)



**LEAD CODE:**

- 1) CATHODE
- 2) CATHODE
- 3) CATHODE
- 4) ANODE
- 5) ANODE

**MARKING CODE: CF**

For standard mounting refer  
to TLM521 Package Details

R0 (20-January 2006)