

# *Tiny Leadless Module* *Guide*



*Central*  
*Semiconductor Corp.*

**TLM Schottky Rectifiers**

**Selection Guide**

TYPE NO.	V <sub>R</sub> RM	I <sub>F</sub>	V <sub>F</sub>	@ I <sub>F</sub>	t <sub>rr</sub>	C <sub>D</sub>	CHIP PROCESS
	(V) MAX	(A) MAX	(V) MAX	(A)	†TYP. (ns) MAX	†TYP. (pF) MAX	
CTLSH1-40	40	1.0	0.55	1.0	15†	50	CPD76V**
CTLSH2-40	40	2.0	0.50	2.0	–	80	CPD79**
CTLSH3-30	30	3.0	0.45	3.0	–	–	CPD77**
CTLSH5-40	40	5.0	0.52	5.0	80†	220†	CPD86**

**Case Offerings**

TYPE NO.	CENTRAL PART NO.	CASE TYPE	P <sub>D</sub>	NO. OF DEVICES IN EACH PACKAGE	PINOUT	MARKING CODE
CTLSH1-40	CTLSH1-40M322	TLM322	1.45W	1	Please see Drawing No. 1	CBA
	CTLSH1-40M832D	TLM832D	1.65W	2	Please see Drawing No. 3	CFA
CTLSH2-40	CTLSH2-40M832	TLM832	1.9W	1	Please see Drawing No. 4	CFB
CTLSH3-30	CTLSH3-30M833	TLM833	4.5W	1	Please see Drawing No. 2	CHA1
CTLSH5-40	CTLSH5-40M833	TLM833	4.5W	1	Please see Drawing No. 2	CHA1

**TLM Small Signal Transistors**

**High Current**

**Selection Guide**

FAMILY	BV <sub>CBO</sub>	BV <sub>CEO</sub>	BV <sub>EBO</sub>	I <sub>CBO</sub> @ V <sub>CB</sub>	h <sub>FE</sub>		@ V <sub>CE</sub>	@ I <sub>C</sub>	V <sub>CE(SAT)</sub>	@ I <sub>C</sub>	C <sub>ob</sub>	f <sub>T</sub>	NF	t <sub>off</sub>	CHIP PROCESS	
	(V) MIN	(V) MIN	(V) MIN	(nA) MAX	(V)	MIN	MAX	(V)	(mA)	(V) MAX	(mA)	(pF) MAX	(MHz) MIN	(dB) MAX		(ns) MAX
<b>NPN</b>																
853	200	100	6.0	10	150	100	300	2.0	2,000	0.05	100	38†	190†	–	–	CP353
3410	40	25	6.0	100	40	100	300	1.0	100	0.45	1,000	10	100	–	–	CP341**
<b>PNP</b>																
953	140	100	6.0	50	100	100	300	1.0	1,000	0.05	100	45†	150†	–	–	CP753
7410	40	25	6.0	100	40	100	300	1.0	100	0.45	1,000	15	100	–	–	CP741**


**Case Offerings**

FAMILY	CENTRAL PART NO.	CASE TYPE	P <sub>D</sub>	NO. OF DEVICES IN EACH PACKAGE	PINOUT	MARKING CODE
<b>NPN</b>						
853	CTLT853-M833	TLM833	4.5W	1	Please see Drawing No. 8	CHA3
3410	CTLT3410-M521	TLM521	0.9W	1	Please see Drawing No. 5	CB
	CTLT3410-M832D	TLM832D	1.65W	2	Please see Drawing No. 9	CFG
<b>PNP</b>						
953	CTLT953-M833	TLM833	4.5W	1	Please see Drawing No. 11	CHA4
7410	CTLT7410-M521	TLM521	0.9W	1	Please see Drawing No. 6	CD
	CTLT7410-M832D	TLM832D	1.65W	2	Please see Drawing No. 10	CFH

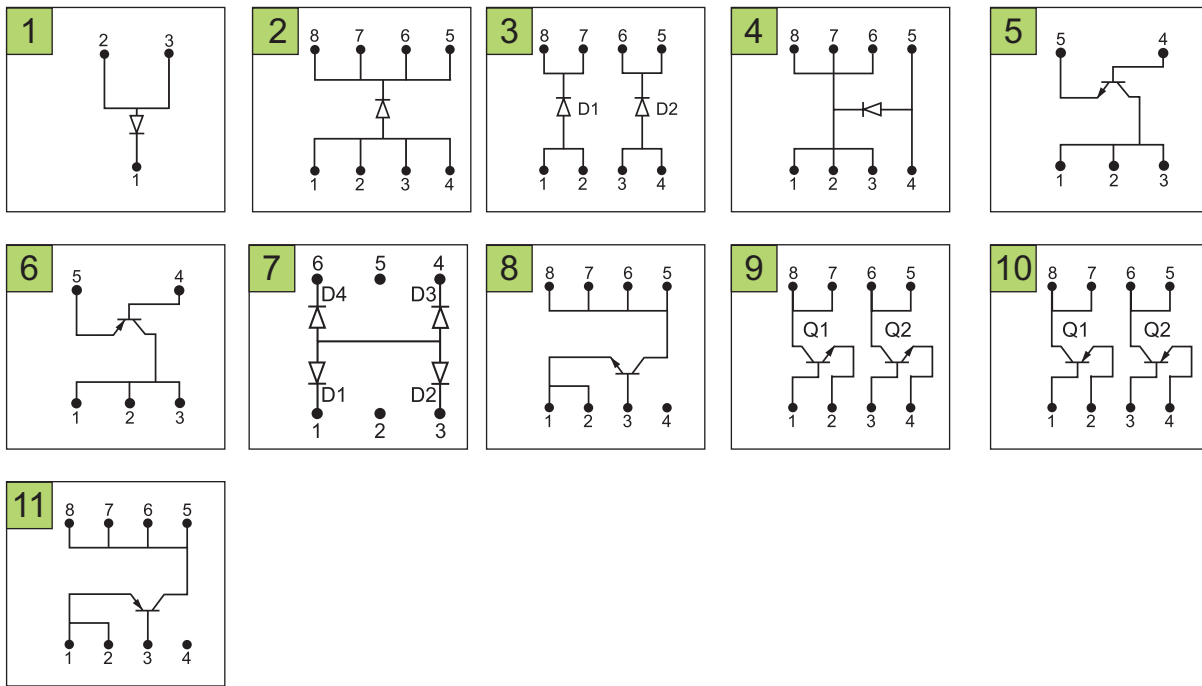
**TLM TVS/Zener Array**

**Selection Guide/Case Offerings**

ELECTRICAL CHARACTERISTICS PER DIODE: (T<sub>A</sub>=25°C unless otherwise noted)

Central Part No.	Case Type	Reverse Stand-Off Voltage		Reverse Breakdown Voltage		Reverse Leakage Current		Clamping Voltage 8 x 20µs		Clamping Voltage 8 x 20µs		Off State Junction Capacitance (V <sub>R</sub> =0V, f=1MHz)	Pinout	Marking Code
		V <sub>WRM</sub> MAX (V)	V <sub>BR</sub> MIN (V)	I <sub>BR</sub> (mA)	I <sub>R</sub> MAX (µA)	V <sub>R</sub> (V)	V <sub>cl</sub> MAX (V)	I <sub>PP</sub> (A)	V <sub>cl</sub> MAX (V)	I <sub>PP</sub> (A)	C <sub>J</sub> MAX (pF)			
CTLSMS05-M622	TLM622 	5	6.0	1.0	5.0	5	9.5	5.0	13	24	200	Please see Drawing No. 7	CBC	
CTLSMS12-M622		12	13.3	1.0	5.0	12	17	5.0	21	15	90		CBD	
CTLSMS15-M622		15	16.7	1.0	5.0	15	22	5.0	27	12	70		CBF	
CTLSMS24-M622		24	26.7	1.0	5.0	24	35	5.0	40	8	50		CBH	

\*\* Typical Electrical Curves data for this chip is currently being revised. For latest updated data, please visit our website at: [www.centrasemi.com/chip](http://www.centrasemi.com/chip)



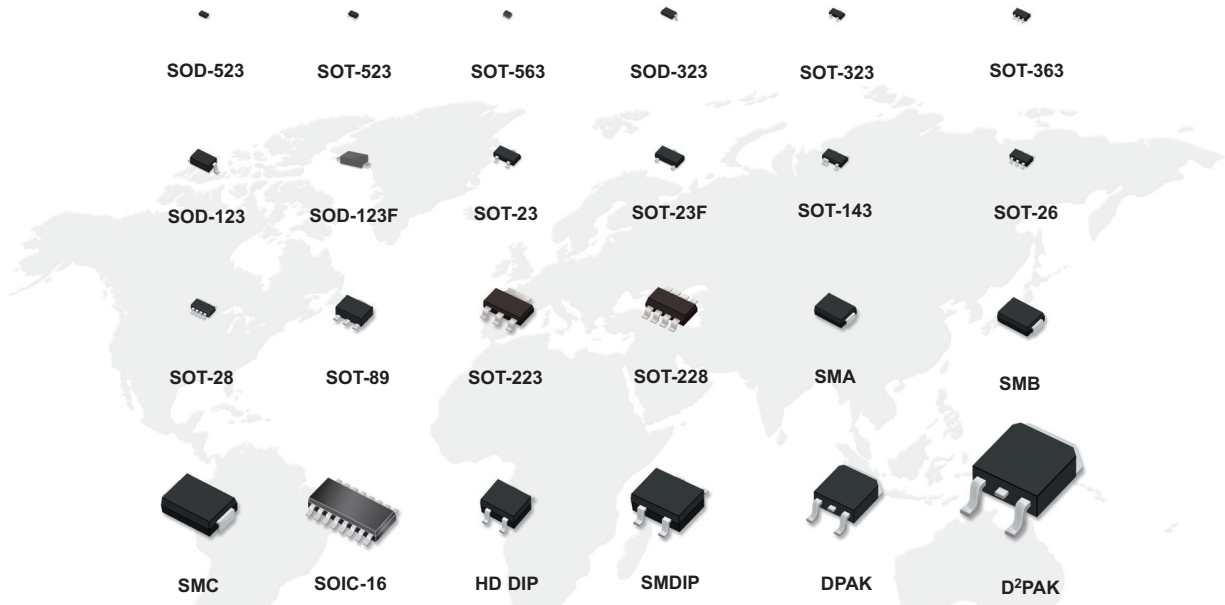
Sample devices are available upon request. Please contact Central's Sales Department at 631-435-1110 or online at: [www.centrasemi.com/samples.aspx](http://www.centrasemi.com/samples.aspx)

Detailed datasheets are available on Central's website: [www.centrasemi.com/TLM](http://www.centrasemi.com/TLM)

All of the Central Semiconductor TLM's are Pb Free and RoHS compliant.



**Surface Mount Packages**  
(Actual Size)



**TLM™ Tiny Leadless Module Packages**

Bottom View



**Manufacturer of World Class Discrete Semiconductors**

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