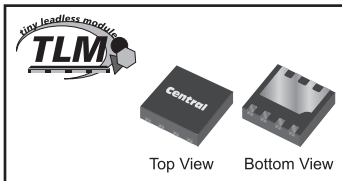
CTLT953-M833S

SURFACE MOUNT
HIGH CURRENT
PNP SILICON TRANSISTOR



Top View Bottom View

TLM833S CASE

www.centralsemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CTLT953-M833S is a high performance 5.0A high current PNP transistor designed for applications where small size and operational efficiency are prime requirements. With a maximum power dissipation of 4.5W, and a very small package footprint, this device is 80% smaller than a comparible SOT-223 device. This leadless package design has a power density at least twice that of equivalent package devices.

MARKING CODE: CHA4S

APPLICATIONS:

- Motor control
- Load switches
- Display drives
- Relay drives

FEATURES:

- High Voltage (140V)
- High Current (5.0A)
- Low $V_{CE(SAT)}$ (420mV MAX @ 4.0A)
- High Thermal Efficiency
- 3 x 3mm TLM™ case

MAXIMUM RATINGS: (T_A=25°C)	**SYMBOL**		**UNITS**
Collector-Base Voltage	V_{CBO}	140	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Continuous Collector Current	I_C	5.0	A
Power Dissipation (Note 1)	P_D	4.5	W
Power Dissipation (Note 2)	P_D	4.0	W
Power Dissipation (Note 3)	P_D	2.5	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	°C
Thermal Resistance (Note 1)	Θ_{JA}	27.78	°C/W
Thermal Resistance (Note 2)	Θ_{JA}	31.25	°C/W
Thermal Resistance (Note 3)	Θ_{JA}	50.00	°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

SYMBOL	**TEST CONDITIONS**	**MIN**	**TYP**	**MAX**	**UNITS**
I_{CBO}	V_{CB}=100V			50	nA
I_{CBO}	V_{CB}=100V, T_A=100°C			1.0	µA
I_{CER}	V_{CE}=100V, R_{BE}≤1.0kΩ			50	nA
I_{EBO}	V_{EB}=6.0V			10	nA
BV_{CBO}	I_C=100µA	140	170		V
BV_{CER}	I_C=10mA, R_{BE}≤1.0kΩ	140	150		V
BV_{CEO}	I_C=10mA	100	120		V
BV_{EBO}	I_E=100µA	6.0	9.0		V
$V_{CE(SAT)}$	I_C=100mA, I_B=10mA		20	50	mV
$V_{CE(SAT)}$	I_C=1.0A, I_B=100mA		90	120	mV
$V_{CE(SAT)}$	I_C=2.0A, I_B=200mA		170	220	mV
$V_{CE(SAT)}$	I_C=4.0A, I_B=400mA		320	420	mV
$V_{BE(SAT)}$	I_C=4.0A, I_B=400mA		1.0	1.2	V

Notes: (1) Ceramic or aluminum core PC Board with copper mounting pad area of 75 mm^2
(2) FR-4 Epoxy PC Board with copper mounting pad area of 75 mm^2
(3) FR-4 Epoxy PC Board with copper mounting pad area of 25 mm^2

R0 (8-August 2012)

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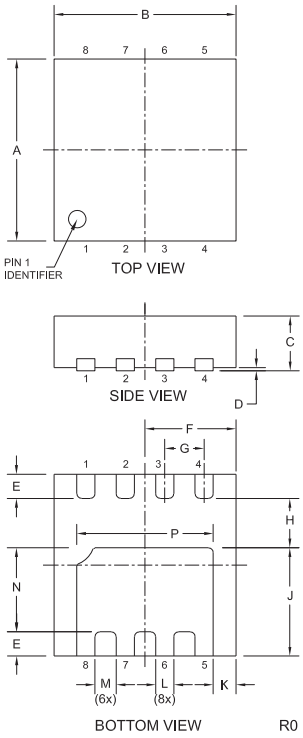
ELECTRICAL CHARACTERISTICS - Continued: (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
h_{FE}	V_{CE}=1.0V, I_C=10mA	100			
h_{FE}	V_{CE}=1.0V, I_C=1.0A	100	200	300	
h_{FE}	V_{CE}=1.0V, I_C=3.0A	50	70		
h_{FE}	V_{CE}=1.0V, I_C=4.0A	30	45		
h_{FE}	V_{CE}=1.0V, I_C=10A		15		
f_T	V_{CE}=10V, I_C=100mA, f=50MHz		150		MHz
C_{ob}	V_{CB}=10V, I_E=0, f=1.0MHz		45		pF

TLM833S CASE - MECHANICAL OUTLINE



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A	0.112	0.124	2.85	3.15
B	0.112	0.124	2.85	3.15
C	0.031	0.039	0.80	1.00
D	0.000	0.002	0.00	0.05
E	0.012	0.020	0.30	0.50
F	0.056	0.062	1.43	1.57
G	0.026		0.65	
H	0.030	0.033	0.75	0.85
J	0.065	0.073	1.65	1.85
K	0.012	0.016	0.30	0.40
L	0.010	0.014	0.25	0.35
M	0.012	0.016	0.30	0.40
N	0.047	0.057	1.20	1.45
P	0.081	0.091	2.07	2.32

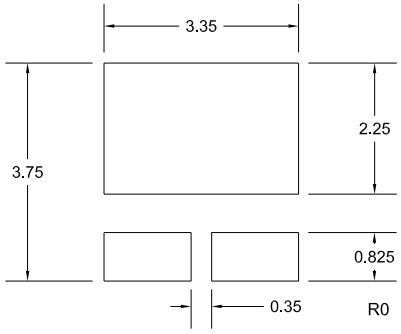
TLM833S (REV:R0)

LEAD CODE:

1) Emitter
2) Emitter
3) Base
4) N.C.
5) Collector
6) Collector
7) Collector
8) Collector

MARKING CODE: CHA4S

REQUIRED MOUNTING PADS
(Dimensions in mm)



Failure to use this mouning pad layout may result in damage to device.

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