

CTLT953-M833

**SURFACE MOUNT
HIGH CURRENT
PNP SILICON TRANSISTOR**



Top View Bottom View

TLM833 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CTLT953-M833 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 comparable SOT-223 device. This leadless package design has a watts per unit area at least twice that of equivalent package devices.

MARKING CODE: CHA4

- NPN Complement: CTLT853-M833

FEATURES:

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

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

Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Power Dissipation (Note 1)
Power Dissipation (Note 2)
Power Dissipation (Note 3)
Operating and Storage Junction Temperature
Thermal Resistance (Note 1)
Thermal Resistance (Note 2)
Thermal Resistance (Note 3)

SYMBOL

V_{CBO}	140
V_{CEO}	100
V_{EBO}	6.0
I_C	5.0
P_D	4.5
P_D	4.0
P_D	2.5
T_J, T_{stg}	-65 to +150
θ_{JA}	27.78
θ_{JA}	31.25
θ_{JA}	50.00

UNITS

V
V
V
A
W
W
W
$^\circ C$
$^\circ C/W$
$^\circ C/W$
$^\circ C/W$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CBO}	$V_{CB}=100V$			50	nA
I_{CBO}	$V_{CB}=100V, T_A=100^\circ C$			1.0	μA
I_{CER}	$V_{CE}=100V, R_{BE} \leq 1.0k\Omega$			50	nA
I_{EBO}	$V_{EB}=6.0V$			10	nA
BV_{CBO}	$I_C=100\mu A$	140	170		V
BV_{CER}	$I_C=10mA, R_{BE} \leq 1.0k\Omega$	140	150		V
BV_{CEO}	$I_C=10mA$	100	120		V
BV_{EBO}	$I_E=100\mu A$	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 mm²
(2) FR-4 Epoxy PC Board with copper mounting pad area of 75 mm²
(3) FR-4 Epoxy PC Board with copper mounting pad area of 25 mm²

R1 (17-February 2010)

CTLT953-M833

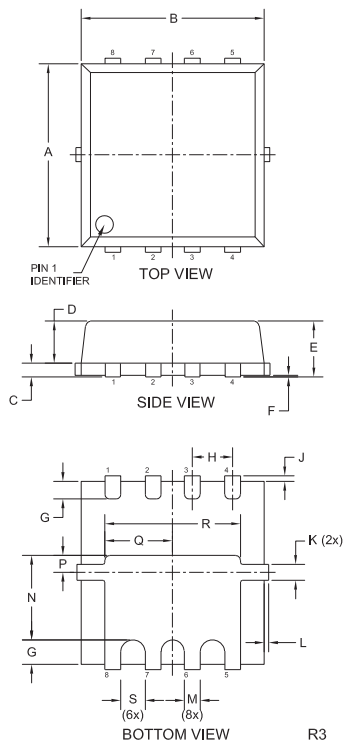
SURFACE MOUNT
HIGH CURRENT
PNP SILICON TRANSISTOR



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

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

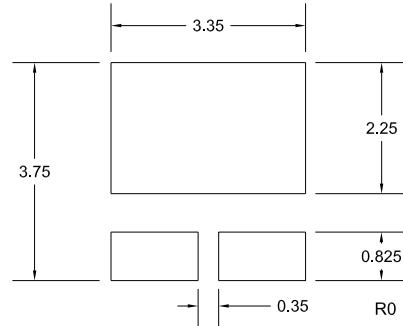
TLM833 CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.114	0.122	2.90	3.10
B	0.114	0.122	2.90	3.10
C	0.006	0.010	0.15	0.25
D	0.026	0.030	0.65	0.75
E	0.031	0.039	0.80	1.00
F	0.000	0.002	0.00	0.05
G	0.008	0.018	0.20	0.45
H	0.026		0.65	
J	---	0.005	---	0.125
K	0.007	0.012	0.17	0.30
L	---	0.005	---	0.125
M	0.011	0.015	0.29	0.39
N	0.049	0.057	1.25	1.45
P	0.006	0.014	0.15	0.35
Q	0.040	0.048	1.01	1.21
R	0.085	0.093	2.16	2.36
S	0.012	0.016	0.30	0.40

TLM833 (REV:R3)

REQUIRED MOUNTING PADS
(Dimensions in mm)



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

LEAD CODE:

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

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