



CHENMKO ENTERPRISE CO.,LTD

CHT5338ZPT

**SURFACE MOUNT
NPN Silicon Transistor**

VOLTAGE 100 Volts CURRENT 5 Ampere

Lead free devices

APPLICATION

- * Telephony and professional communication equipment.
- * Other switching applications.

FEATURE

- * Small flat package. (SC-73/SOT-223)
- * Suitable for high packing density.
- * High saturation current capability.
- * Voltage controlled small signal switch.

CONSTRUCTION

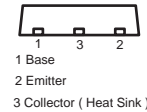
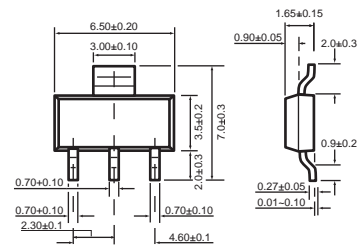
- * NPN Silicon Power Transistor

MARKING

ZLN



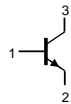
SC-73/SOT-223



Dimensions in millimeters

SC-73/SOT-223

CIRCUIT



LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V _{CB0}	collector-base voltage	open emitter	-	100	V
V _{CEO}	collector-emitter voltage	open base	-	100	V
V _{EBO}	emitter-base voltage	open collector	-	6.0	V
I _C	collector current DC		-	5.0	A
I _B	base current		-	1.0	A
P _{tot}	total power dissipation	T _{amb} ≤ 25 °C; note 1	-	2.0	W
T _{stg}	storage temperature		-65	+150	°C
T _j	junction temperature		-	150	°C
T _{amb}	operating ambient temperature		-65	+150	°C

Note

1. Transistor mounted on an FR4 printed-circuit board.

RATING CHARACTERISTIC CURVES (CHZ5338ZPT)

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	500	K/W

Note

1. Transistor mounted on an FR4 printed-circuit board.

CHARACTERISTICS

$T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector cut-off current	$I_E = 0; V_{CB} = 100V$	–	10	nA
I_{EBO}	emitter cut-off current	$I_C = 0; V_{EB} = 6V$	–	100	nA
h_{FE}	DC current gain	$V_{CE} = 2V$; note 1 $I_C = 500mA$ $I_C = 2.0A$ $I_C = 5.0A$	30 30 20	– 120 –	
V_{CEsat}	collector-emitter saturation voltage	$I_C = 2.0A; I_B = 200mA$	–	0.7	V
		$I_C = 5.0A; I_B = 500mA$	–	1.2	V
V_{BEsat}	base-emitter saturation voltage	$I_C = 2.0A; I_B = 200mA$	–	1.2	V
		$I_C = 5.0A; I_B = 500mA$	–	1.8	V
C_c	collector capacitance	$I_E = i_e = 0; V_{CB} = 10V; f = 1MHz$	–	250	pF
C_e	emitter capacitance	$I_C = i_c = 0; V_{BE} = 2V; f = 1MHz$	–	1000	pF
f_T	transition frequency	$I_C = 500mA; V_{CE} = 10V; f = 10MHz$	30	–	MHz

Switching times (between 10% and 90% levels);

t_d	delay time	$V_{CC}=40V, V_{BE}=3.0V, I_C=2.0A, I_{B1}=200mA$	–	100	ns
t_r	rise time		–	100	ns
t_s	storage time	$V_{CC}=40V, I_C=2.0A, I_{B1}=I_{B2}=200mA$	–	2.0	ns
t_f	fall time		–	200	ns

Note

1. Pulse test: $t_p \leq 300\text{ }\mu\text{s}; \delta \leq 0.02$.