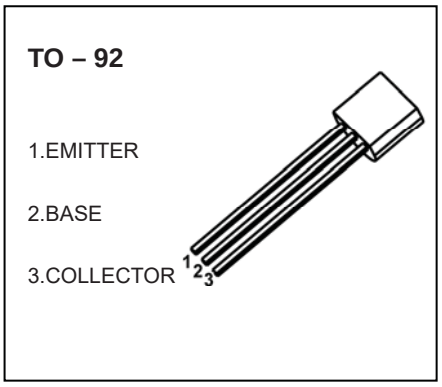
SZCJ Shenzhen Changji Semiconductor Co., LTD.

TO-92 Plastic-Encapsulate Transistors

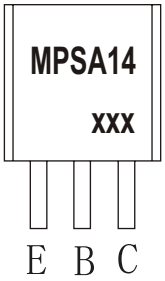
MPSA14 TRANSISTOR (NPN)



FEATURES

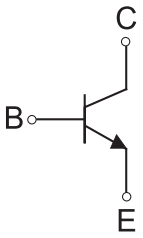
- Darlington Transistor

MARKING



MPSA14=Device code
XXX=Code
GXX=Green molding compound device
CXX=Normal molding compound device

Equivalent Circuit



ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
MPSA14	TO-92	Bulk	1000pcs/Bag
MPSA14-TA	TO-92	Tape	2000pcs/Box

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	30	V
V_{EBO}	Emitter-Base Voltage	10	V
I_C	Collector Current -Continuous	0.5	A
P_D	Collector Power Dissipation	625	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	200	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

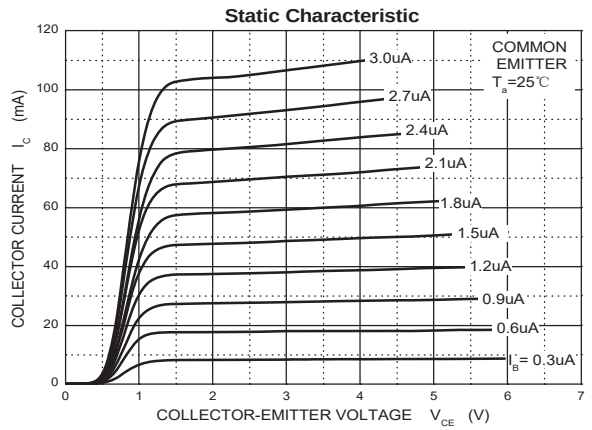
ELECTRICAL CHARACTERISTICS

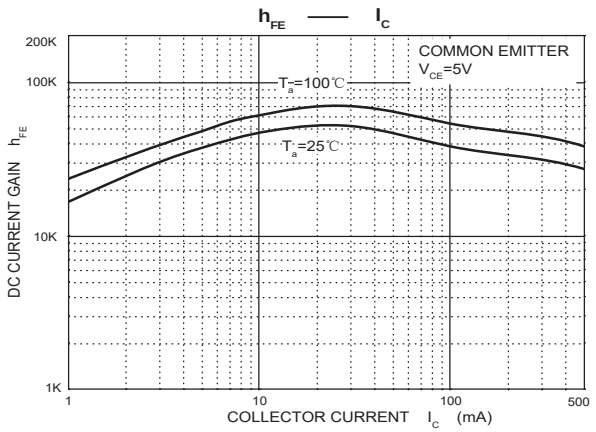
T_a=25℃ unless otherwise specified

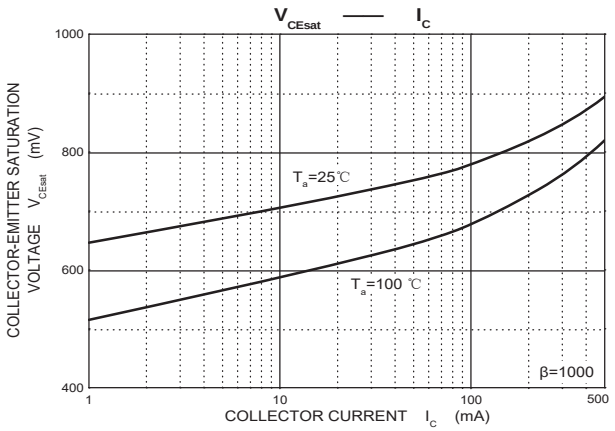
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 0.1mA,I_E=0	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA,I_B=0	30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=0.1mA,I_C=0	10			V
Collector cut-off current	I_{CBO}	V_{CB}=30V,I_E=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=10V,I_C=0			0.1	μA
DC current gain	$h_{FE(1)}$*	V_{CE}=5V, I_C=10mA	10000			
	$h_{FE(2)}$*	V_{CE}=5V, I_C=100mA	20000			
Collector-emitter saturation voltage	$V_{CE(sat)}$*	I_C=100mA,I_B=0.1mA			1.5	V
Base-emitter voltage	V_{BE}*	V_{CE}=5V,I_C=100mA			2.0	V
Transition frequency	f_T	V_{CE}=5V,I_C=10mA,f=100MHz	125			MHz

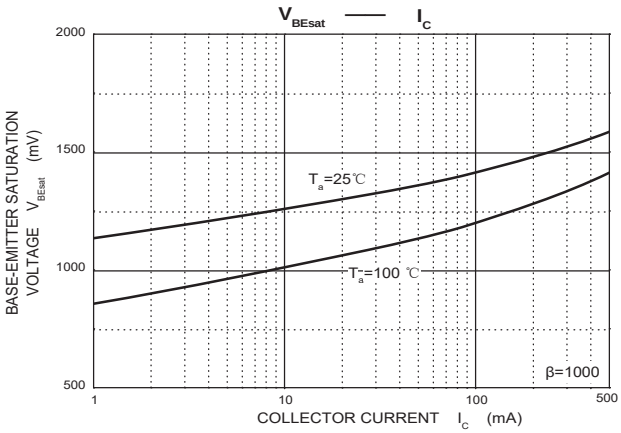
*Pulse test: pulse width ≤300Ks, duty cycle ≤ 2.0%.

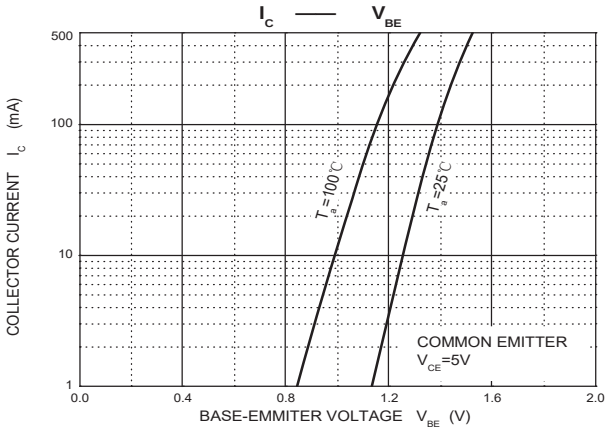
Typical Characteristics

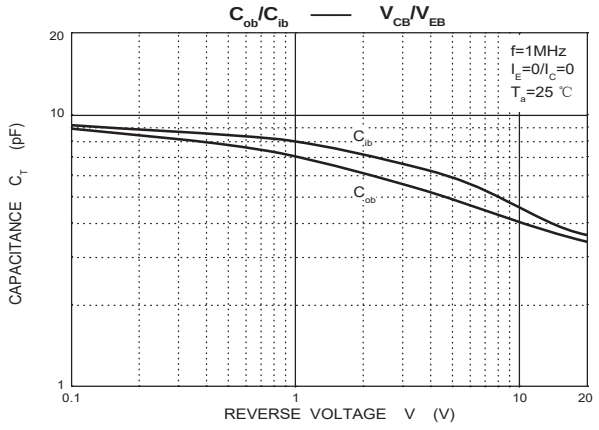


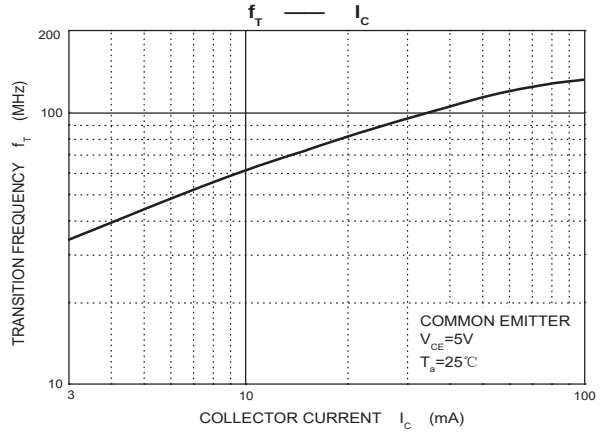


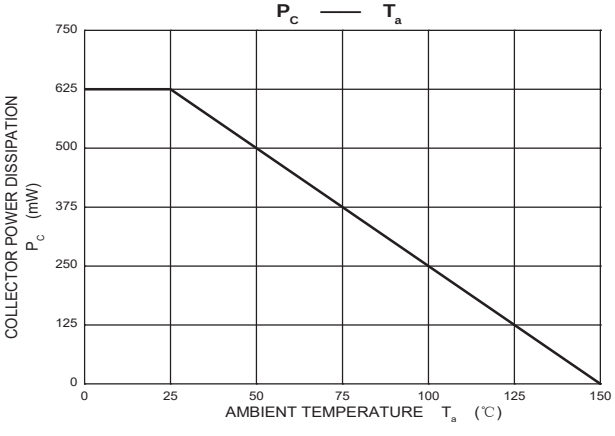




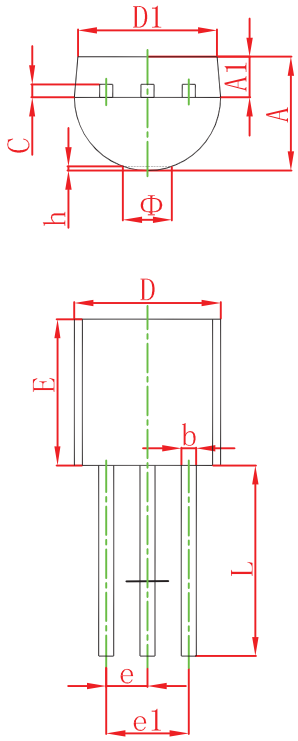






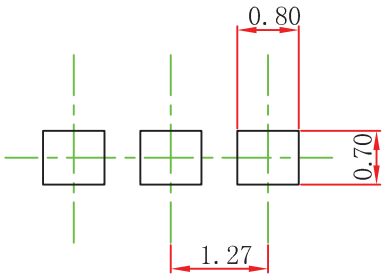


TO-92 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
K		1.600		0.063
h	0.000	0.380	0.000	0.015

TO-92 Suggested Pad Layout

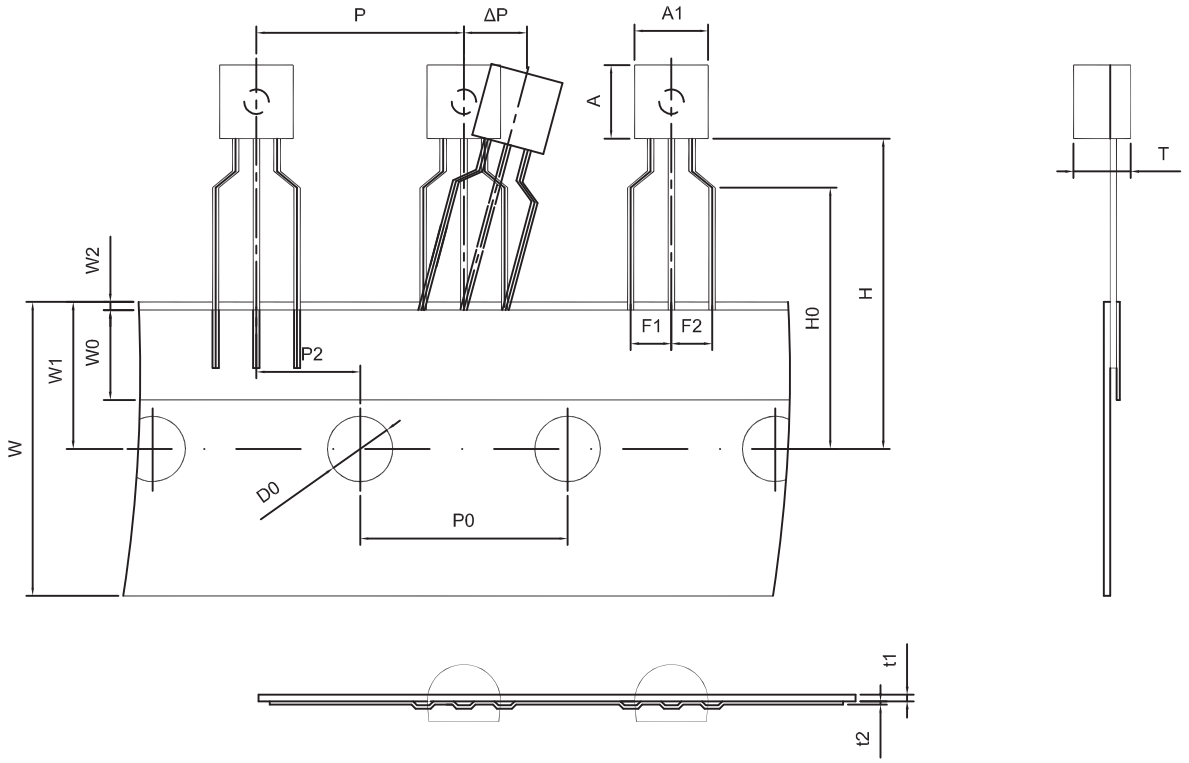


Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

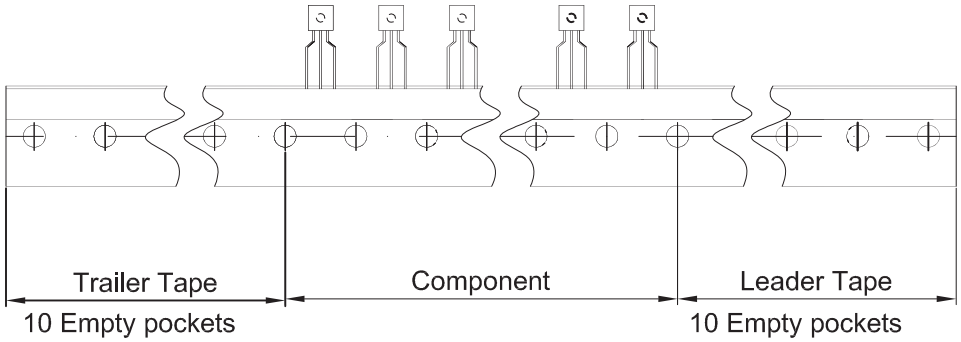
NOTICE

SZCJ reserves the right to make modifications,enhan nts,improvements,corrections or other es without further notice to any product herein. SZCJ does not assume any liability arising out of the application or use of any product described h

TO-92 PACKAGE TAPEING DIMENSION



Dimiensions are in millimeter								
A1	A	T	P	P0	P2	F1	F2	W
4.5	4.5	3.5	12.7	12.7	6.35	2.5	2.5	18.0
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0	9.0	1.0 MAX.	19.0	16.0	4.0	0.4	0.2	0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92	2000 pcs	333×162×43	20,000 pcs	350×340×250