



TIP32CM Chip For P-N-P Planar Power Transistor

General Description:

Silicon epitaxial chip of p-n-p medium power transistor ($I_c \text{ max}=3A$) used for general-purpose amplifier and switching application.

Complementary pair TIP31C

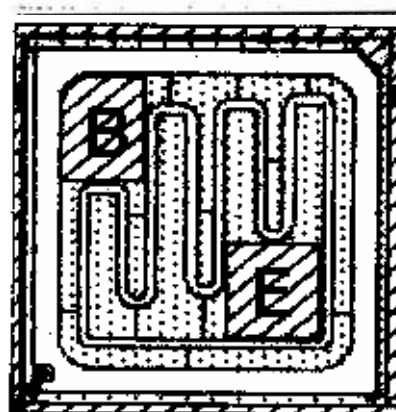
Wafer Diameter -- 100 mm
 Wafer thickness -- $270 \pm 20 \mu\text{m}$;
 Die size -- $1.7 \times 1.7 \text{ mm}$;

Metallization:

Top -- Al $4.5 \pm 0.5 \mu\text{m}$
 Bottom -- Ti-Ni-Ag
 Ti = $0.1 \pm 0.02 \mu\text{m}$
 Ni = $0.5 \pm 0.1 \mu\text{m}$
 Ag = $0.6 \pm 0.1 \mu\text{m}$

Bondpad size:

1. Base $0.4 \times 0.3 \text{ mm}$
 2. Emitter $0.312 \times 0.312 \text{ mm}$



Recommended ultrasonic bonding wire Al
 Emitter - 2 wire dia $80 \mu\text{m}$
 Base - 1 wire dia $80 \mu\text{m}$

ELECTRICAL CHARACTERISTICS CHIPS ON WAFER ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Unit	Measurement Mode	Min	Max
Collector cutoff Current	I_{ce0}	mA	$V_{ce}=45V$; $I_b=0$		0.3
Collector cutoff Current	I_{ces}	mA	$V_{ce}=60V$; $U_{be}=0$		0.2
Emitter cutoff Current	I_{ebo}	mA	$V_{eb}=5,0 \text{ V}$; $I_c=0$		1.0
Collector – Emitter Sustaining	V_{ceo} (sus)	V	$I_c=30 \text{ mA}$, $I_b=0$	60	
DC Current Gain(1) **	h_{FE}		$V_{ce}=4V$; $I_c=1A$	100	
Small-Signal Current Gain **	h_{fe}		$V_{ce}=10V$; $I_c=0,5 \text{ A}$ $f=1\text{kHz}$	20	
Collector-Emitter Saturation Voltage(1)	$V_{ce(sat)}$	V	$I_c=1A$; $I_b=35mA$		0.5
Base- Emitter On Voltage(1) **	$V_{be(on)}$	V	$V_{ce}=4 \text{ V}$; $I_c=3 \text{ A}$		1.8

1. Pulse Tests: Pulse Width $\leq 300 \mu\text{s}$, Duty Cycle $\leq 2\%$

2. ** In a circuit with common base $U_{cb}= U_{ce}-1v$; $I_e=I_c$