DS 2451 -2

# SL2366

## HIGH PERFORMANCE TRANSISTOR ARRAY

The SL2366 is an array of transistors internally connected to form a dual long-tail pair. The ICs are manufactured on a high speed bipolar process, which has a minimum usable $f_T$ of 2.5GHz (typically 5GHz).

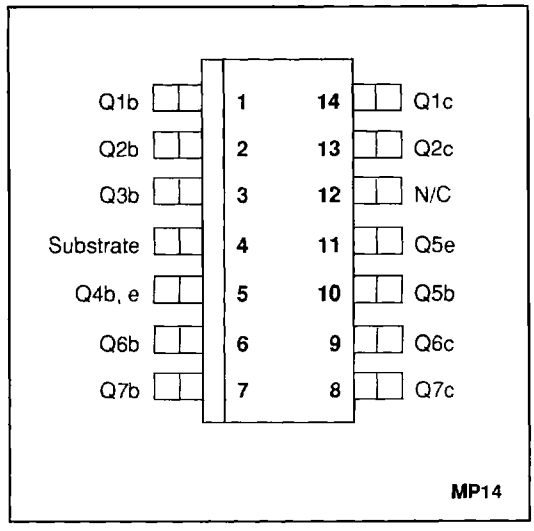


*Figure 1 : Pin connections - top view*

### FEATURES

- Complete Dual Long Tailed Pair in One Package
- Very High $f_T$ - Typically 5GHz
- Well Defined Gain at Low Current Levels
- Available in Small Outline Package
- 3:1 current mirror formed by Q3, Q4

### ABSOLUTE MAXIMUM RATINGS

| | |
|---|---|
| Maximum individual transistor dissipation | 200mW |
| Storage temperature | -55°C to +150°C |
| Maximum junction temperature | +150°C |
| Package thermal resistance (°C/W): | |
| Chip to ambient 200 | |

$V_{CBO}$ = 10V, $V_{EBO}$ = 2.4V, $V_{CEO}$ = 6V, $V_{CIO}$ = 15V, IC (any one transistion) = 20mA

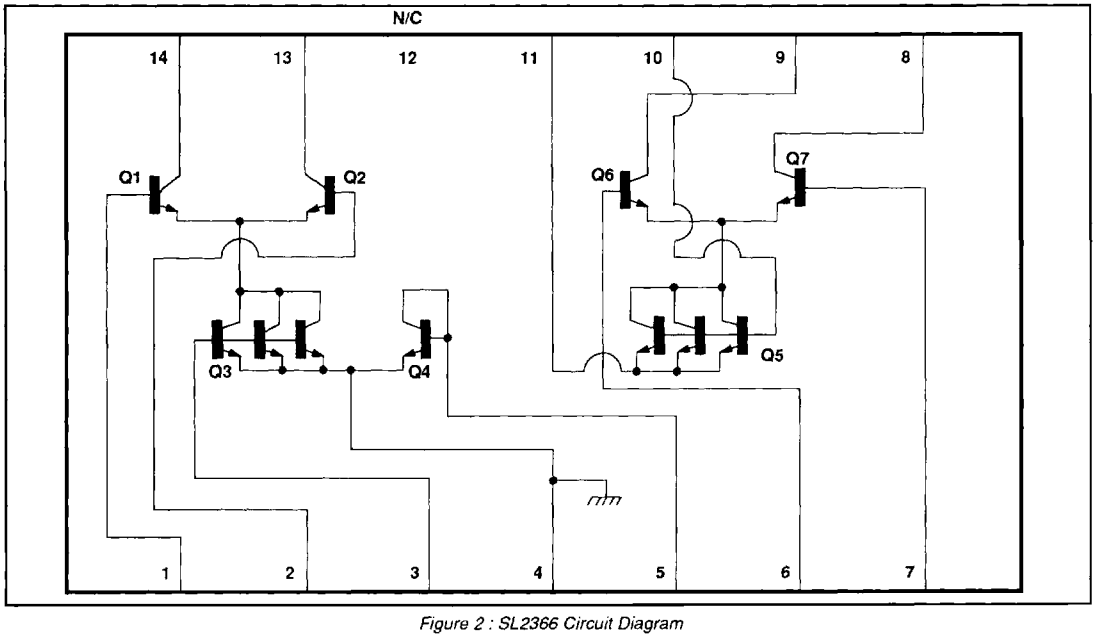


*Figure 2 : SL2366 Circuit Diagram*

## ELECTRICAL CHARACTERISTICS Q1 - Q7

$T_{amb}$ = 22°C

| Characteristics | Value | | | Units | Conditions |
|---|---|---|---|---|---|
| | Min. | Typ. | Max. | | |
| BVcbo | 10 | 20 | | V | $I_C$ = 10μA |
| LVceo | 6 | 9 | | V | $I_C$ = 5mA |
| BVcbo | 2.5 | 5 | | V | $I_E$ = 10μA |
| BVcio | 16 | 40 | | V | $I_C$ = 10μA |
| Hfe | 50 | 80 | | | $I_C$ = 8mA, $V_{ce}$ = 2V |
| fT | 2.5 | 5 | | GHz | $I_C$(tail) = 8mA, $V_{ce}$ = 2V |
| $\Delta V_{be}/T_{amb}$ | | 2.0 | 5.0 | mV | $I_C$(tail) = 8mA, $V_{ce}$ = 2V |
| $\Delta V_{be}/T_{amb}$ | | -7.0 | | mV/°C | $I_C$(tail) = 8mA, $V_{ce}$ = 2V |
| $C_{CB}$ | | 0.5 | 0.8 | pF | $V_{CB}$ = 0V (note 1) |
| $C_{CI}$ | | 1.0 | 1.5 | pF | $V_{CI}$ = 0V (note 1) |

**Note 1** Parameters guaranteed by design, not production
**Note2** Pin 4 must be connected to the most negative part of the circuit

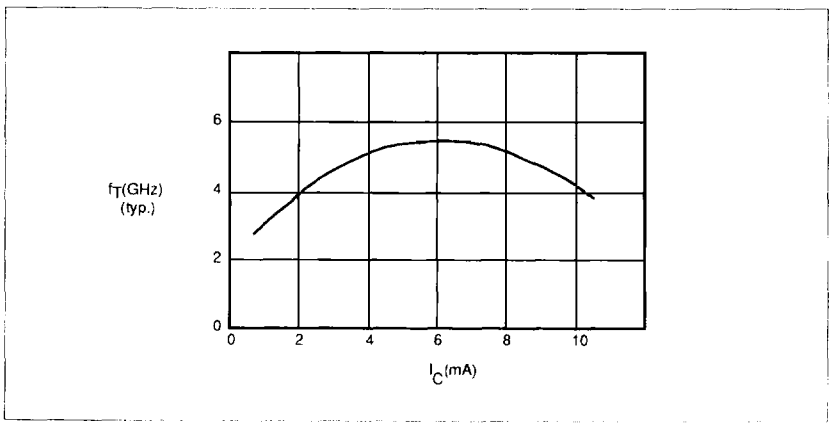


*Figure 3 : Collector Current*

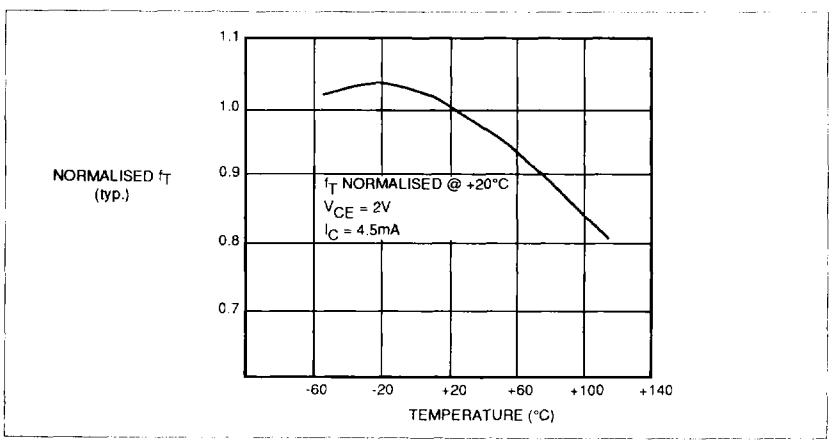


*Figure 4 : Chip Temperature*