

# MPS750

## PNP Silicon Epitaxial Planar Transistor

for switching and amplifier applications.

On special request, these transistors can be manufactured in different pin configurations.



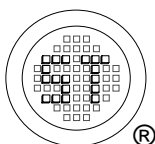
1. Emitter 2. Base 3. Collector  
TO-92 Plastic Package  
Weight approx. 0.19g

### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

| Parameter                 | Symbol     | Value         | Unit             |
|---------------------------|------------|---------------|------------------|
| Collector Base Voltage    | $-V_{CBO}$ | 60            | V                |
| Collector Emitter Voltage | $-V_{CEO}$ | 40            | V                |
| Emitter Base Voltage      | $-V_{EBO}$ | 5             | V                |
| Collector Current         | $-I_C$     | 2             | A                |
| Power Dissipation         | $P_{tot}$  | 625           | mW               |
| Junction Temperature      | $T_j$      | 150           | $^\circ\text{C}$ |
| Storage Temperature Range | $T_s$      | - 55 to + 150 | $^\circ\text{C}$ |

### Characteristics at $T_a = 25\text{ }^\circ\text{C}$

| Parameter  | Symbol         | Min. | Max.       | Unit |
|--|----------------|------|------------|------|
| DC Current Gain  |                |      |            |      |
| at $-V_{CE} = 2\text{ V}$ , $-I_C = 50\text{ mA}$  | $h_{FE}$       | 75   | -          | -    |
| at $-V_{CE} = 2\text{ V}$ , $-I_C = 500\text{ mA}$   | $h_{FE}$       | 75   | -          | -    |
| at $-V_{CE} = 2\text{ V}$ , $-I_C = 1\text{ A}$  | $h_{FE}$       | 75   | -          | -    |
| at $-V_{CE} = 2\text{ V}$ , $-I_C = 2\text{ A}$  | $h_{FE}$       | 40   | -          | -    |
| Collector Cutoff Current<br>at $-V_{CB} = 60\text{ V}$   | $-I_{CBO}$     | -    | 100        | nA   |
| Emitter Cutoff Current<br>at $-V_{EB} = 4\text{ V}$  | $-I_{EBO}$     | -    | 100        | nA   |
| Collector Base Breakdown Voltage<br>at $-I_C = 100\text{ }\mu\text{A}$   | $-V_{(BR)CBO}$ | 60   | -          | V    |
| Collector Emitter Breakdown Voltage<br>at $-I_C = 10\text{ mA}$  | $-V_{(BR)CEO}$ | 40   | -          | V    |
| Emitter Base Breakdown Voltage<br>at $-I_E = 10\text{ }\mu\text{A}$  | $-V_{(BR)EBO}$ | 5    | -          | V    |
| Collector Emitter Saturation Voltage<br>at $-I_C = 1\text{ A}$ , $-I_B = 100\text{ mA}$<br>at $-I_C = 2\text{ A}$ , $-I_B = 200\text{ mA}$ | $-V_{CE(sat)}$ | -    | 0.4<br>0.7 | V    |
| Base Emitter Saturation Voltage<br>at $-I_C = 1\text{ A}$ , $-I_B = 100\text{ mA}$   | $-V_{BE(sat)}$ | -    | 1.2        | V    |
| Base Emitter On Voltage<br>at $-I_C = 1\text{ A}$ , $-V_{CE} = 2\text{ V}$   | $-V_{BE(on)}$  | -    | 1          | V    |
| Gain Bandwidth Product<br>at $-V_{CE} = 5\text{ V}$ , $-I_C = 50\text{ mA}$ , $f = 100\text{ MHz}$   | $f_T$          | 75   | -          | MHz  |



**SEMTECH ELECTRONICS LTD.**

(Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002  
Certificate No. 05103



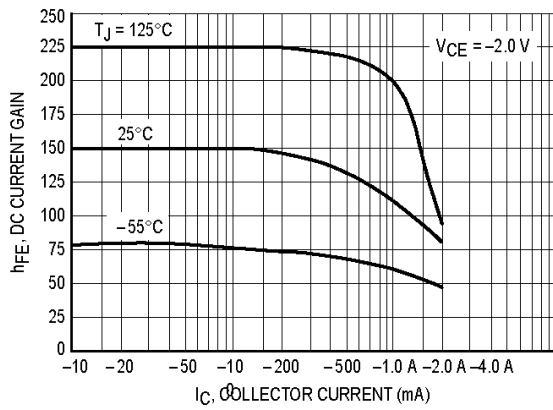
ISO 14001:2004  
Certificate No. 7116



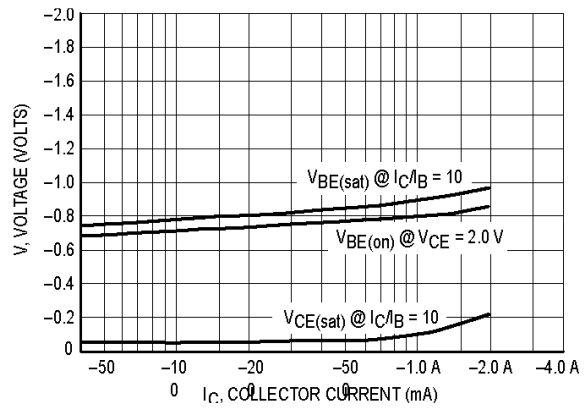
ISO 9001:2000  
Certificate No. 0506098

Dated : 04/04/2007

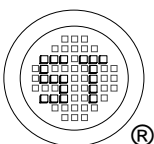
# MPS750



Typical DC Current Gain



On Voltages



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