



# FUKUCOM COMPANY LTD.

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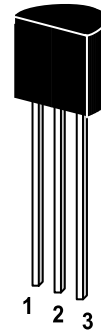
FLAT P, 3/F., EVEREST INDUSTRIAL CENTRE, 396 KWUN TONG ROAD,  
KWUN TONG, KOWLOON, HONG KONG.

TEL: 852-2790 0314 FAX: 852-2790 0206

## MPS8599

### PNP Silicon Amplifier Transistor

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



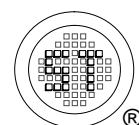
1. Emitter 2. Base 3. Collector

TO-92 Plastic Package

Weight approx. 0.19g

### Absolute Maximum Ratings (Ta=25°C)

	Symbol	Value	Unit
Collector Emitter Voltage	$-V_{CEO}$	80	V
Collector Base Voltage	$-V_{CBO}$	80	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	500	mA
Total Device Dissipation @ $T_A=25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_{tot}$	625 5	mW mW/ $^\circ\text{C}$
Total Device Dissipation @ $T_C=25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_{tot}$	1.5 12	W mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	$T_J, T_s$	-55 to +150	$^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	200	$^\circ\text{C/W}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	83.3	$^\circ\text{C/W}$



Dated : 24/06/2003



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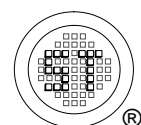
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### Characteristics (T<sub>A</sub>=25 °C)

	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain					
at -V <sub>CE</sub> =5V, -I <sub>C</sub> =1mA	h <sub>FE</sub>	100	-	300	-
at -V <sub>CE</sub> =5V, -I <sub>C</sub> =10mA	h <sub>FE</sub>	100	-	-	-
at -V <sub>CE</sub> =5V, -I <sub>C</sub> =100mA	h <sub>FE</sub>	75	-	-	-
Collector Saturation Voltage					
at -I <sub>C</sub> =100mA, -I <sub>B</sub> =5mA	-V <sub>CEsat</sub>	-	-	0.4	V
at -I <sub>C</sub> =100mA, -I <sub>B</sub> =10mA	-V <sub>CEsat</sub>	-	-	0.3	V
Base Emitter On Voltage					
at -V <sub>CE</sub> =5V, -I <sub>C</sub> =10mA	-V <sub>BE(on)</sub>	0.6	-	0.8	V
Collector-Emitter Breakdown Voltage					
at -I <sub>C</sub> =10mA	-V <sub>(BR)CEO</sub>	80	-	-	V
Collector-Base Breakdown Voltage					
at -I <sub>C</sub> =100μA	-V <sub>(BR)CBO</sub>	80	-	-	V
Emitter-Base Breakdown Voltage					
at -I <sub>E</sub> =10μA	-V <sub>(BR)EBO</sub>	5	-	-	V
Collector Cutoff Current					
at -V <sub>CE</sub> =60V	-I <sub>CES</sub>	-	-	0.1	μA
Collector Cutoff Current					
at -V <sub>CB</sub> =80V	-I <sub>CBO</sub>	-	-	0.1	μA
Emitter Cutoff Current					
at -V <sub>EB</sub> =4V	-I <sub>EBO</sub>	-	-	0.1	μA
Current-Gain-Bandwidth Product					
at -V <sub>CE</sub> =5V, -I <sub>C</sub> =10mA, f=100MHz	f <sub>T</sub>	150	-	-	MHz
Output Capacitance					
at -V <sub>CB</sub> =5V, f=1MHz	C <sub>obo</sub>	-	-	8	pF
Input Capacitance					
at -V <sub>EB</sub> =0.5V, f=1MHz	C <sub>ibo</sub>	-	-	30	pF

Notes: Pulse test: Pulse width ≤ 300μs, Duty cycle=2%.



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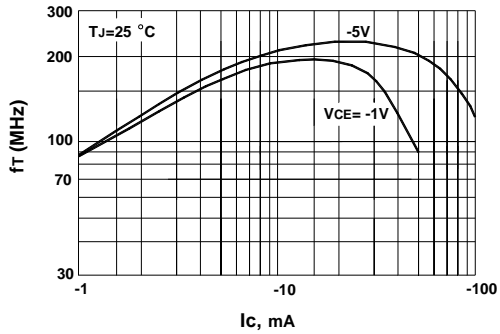
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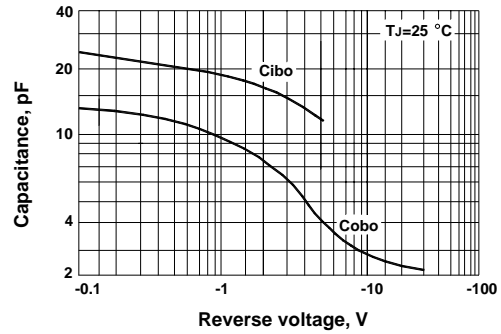
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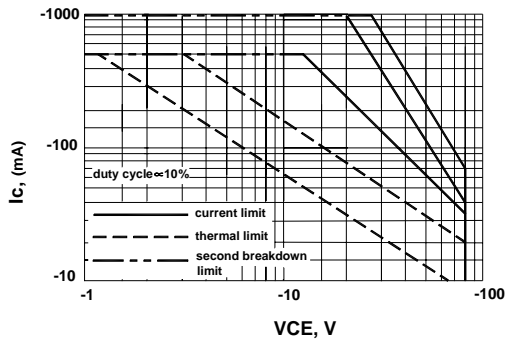
Current gain - bandwidth product



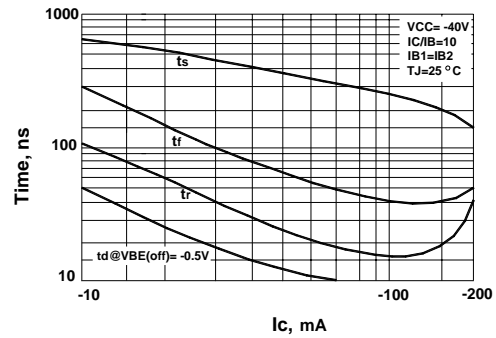
Capacitance



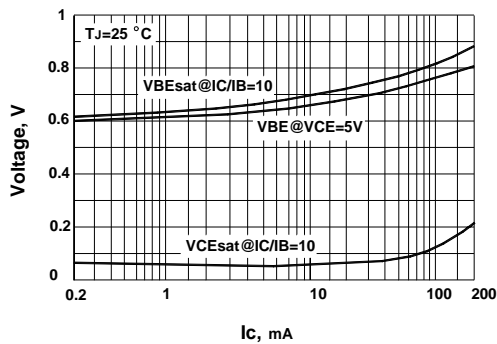
Active - region safe operating area



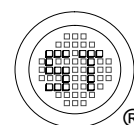
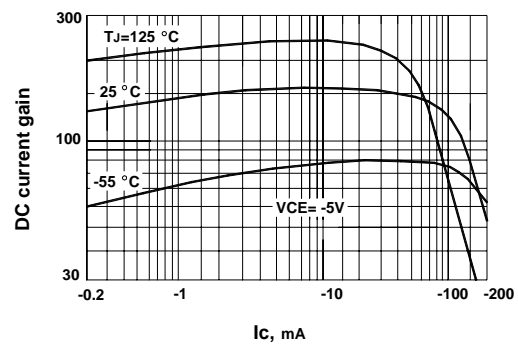
Switching times



"ON" Voltages



DC current gain





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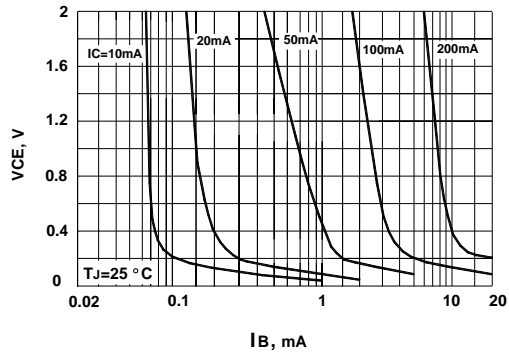
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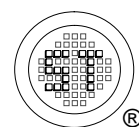
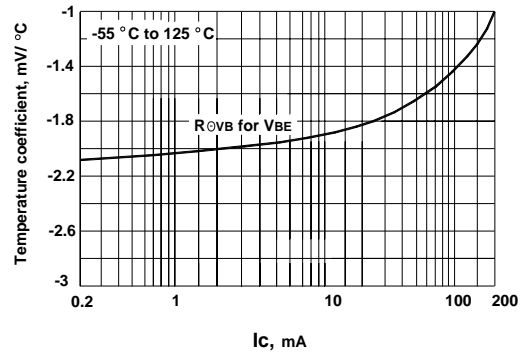
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**Collector saturation region**



**Base emitter temperature coefficient**



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