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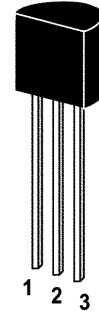
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FLAT P, 3/F., EVEREST INDUSTRIAL CENTRE, 396 KWUN TONG ROAD,
KWUN TONG, KOWLOON, HONG KONG.
TEL: 852-2790 0314 FAX: 852-2790 0206

MPSA05, MPSA06

NPN Silicon Epitaxial Planar Transistor
for amplifier applications

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



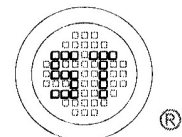
1. Emitter 2. Base 3. Collector

TO-92 Plastic Package
Weight approx. 0.19g

Absolute Maximum Ratings* (T_a = 25 °C)

	Symbol	Value	Unit
Collector Base Voltage	V _{CBO}		V
MPSA05		60	
MPSA06		80	
Collector Emitter Voltage	V _{CEO}		V
MPSA05		60	
MPSA06		80	
Emitter Base Voltage	V _{EBO}	4	V
Collector Current	I _C	500	mA
Total Device Dissipation at Ta=25°C	P _{tot}	625	mW
Derate above 25°C		5	mW/°C
Total Device Dissipation at Tc=25°C	P _{tot}	1.5	W
Derate above 25°C		12	mW/°C
Thermal Resistance, Junction to Case	R _{θJC}	83.3	°C/W
Thermal Resistance, Junction to Ambient(Note1)	R _{θJA}	200	°C/W
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _s	-55 to +150	°C

1.R_{θJA} is measured with the device soldered into a typical printed circuit board.



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Dated : 03/12/2004



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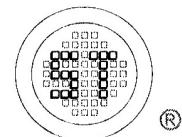
MPSA05, MPSA06

Characteristics at $T_{amb}=25\text{ }^{\circ}\text{C}$

	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain					
at $I_C=10\text{mA}$, $V_{CE}=1\text{V}$	h_{FE}	100	-	-	-
at $I_C=100\text{mA}$, $V_{CE}=1\text{V}$	h_{FE}	100	-	-	-
Collector Cutoff Current					
at $V_{CB}=60\text{V}$ MPSA05	I_{CBO}	-	-	0.1	μA
at $V_{CB}=80\text{V}$ MPSA06		-	-	0.1	μA
Collector Cutoff Current					
at $V_{CE}=60\text{V}$	I_{CES}	-	-	0.1	μA
Collector Emitter Breakdown Voltage ¹⁾					
at $I_C=1\text{mA}$ MPSA05	$V_{(BR)CEO}$	60	-	-	V
MPSA06		80	-	-	V
Emitter Base Breakdown Voltage					
at $I_E=100\mu\text{A}$	$V_{(BR)EBO}$	4	-	-	V
Collector Saturation Voltage					
at $I_C=100\text{mA}$, $I_B=10\text{mA}$	$V_{CE(sat)}$	-	-	0.25	V
Base On Voltage					
at $I_C=100\text{mA}$, $V_{CE}=1\text{V}$	$V_{BE(on)}$	-	-	1.2	V
Current Gain – Bandwidth Product ²⁾					
at $I_C=10\text{mA}$, $V_{CE}=2\text{V}$, $f=100\text{MHz}$	f_T	100	-	-	MHz

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

2) f_T is defined as the frequency at which $|h_{fe}|$ extrapolates to unity.



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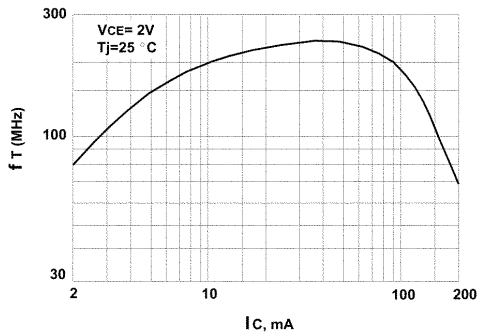
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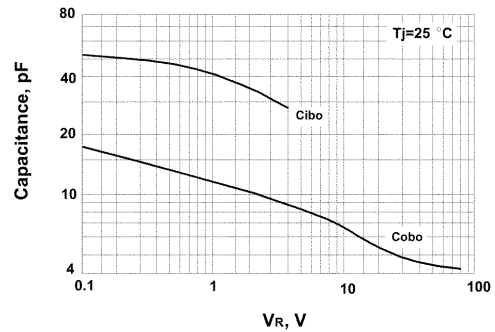
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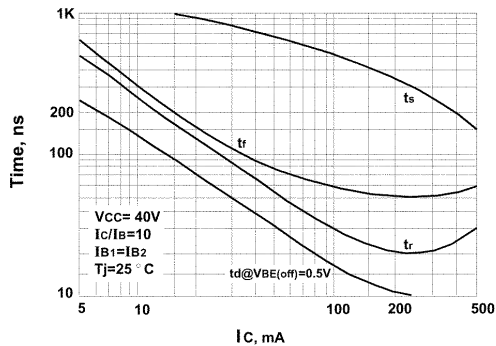
Current gain - bandwidth product



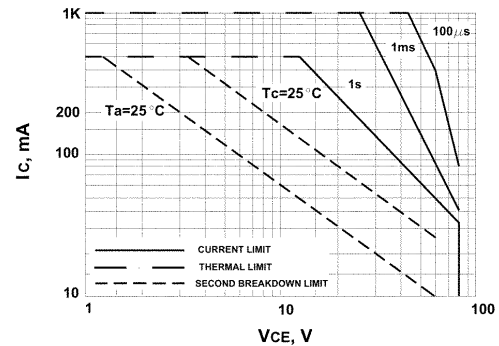
Capacitance



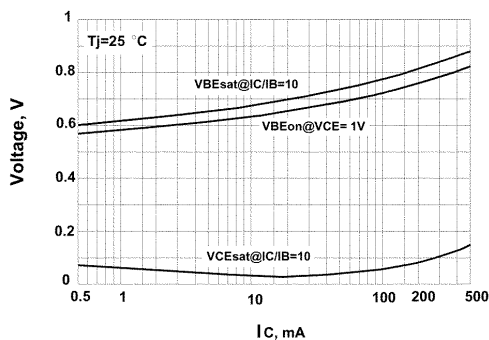
Switching Time



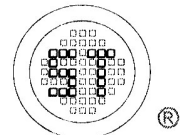
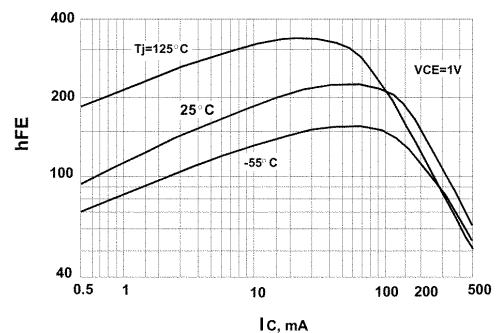
Active- region safe operating area



"ON" voltages



DC current gain



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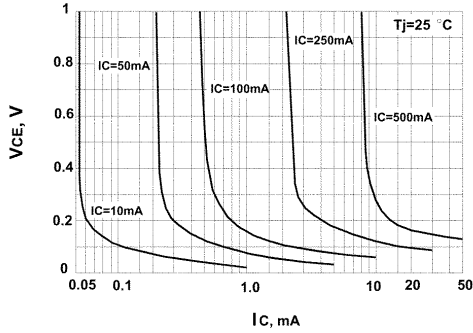
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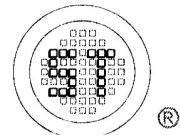
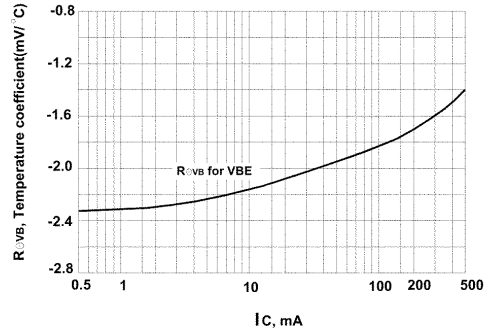
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Collector saturation region



Base emitter temperature coefficient



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