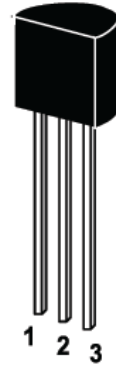


NPN Silicon Epitaxial Planar Transistor

for high voltage switching and amplifier applications.

The transistor is subdivided into one group according to its DC current gain. As complementary type the PNP transistor MPSA 92 and MPSA 93 is recommended.

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
		MPSA 42	MPSA 43	
Collector Base Voltage	V _{CB0}	300	200	V
Collector Emitter Voltage	V _{CEO}	300	200	V
Emitter Base Voltage	V _{EBO}	6		V
Collector Current	I _C	500		mA
Total Device Dissipation @ T _a =25°C	P _{tot}	625		mW
Derate above 25°C		5.0		mW/°C
Total Device Dissipation @ T _c =25°C	P _{tot}	1.5		W
Derate above 25°C		12		mW/°C
Junction Temperature	T _J	150		°C
Storage Temperature Range	T _S	-55 to +150		°C

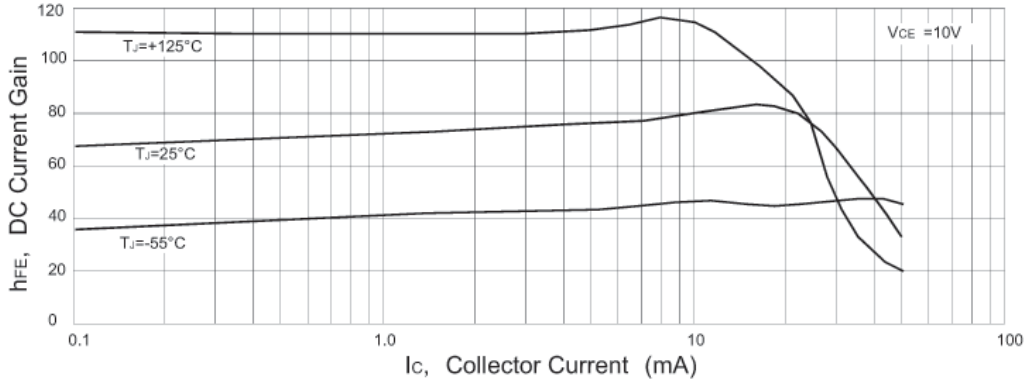


Figure 1. DC Current Gain

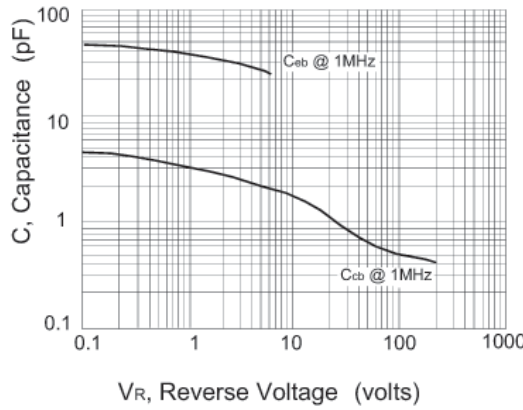


Figure 2. Capacitance

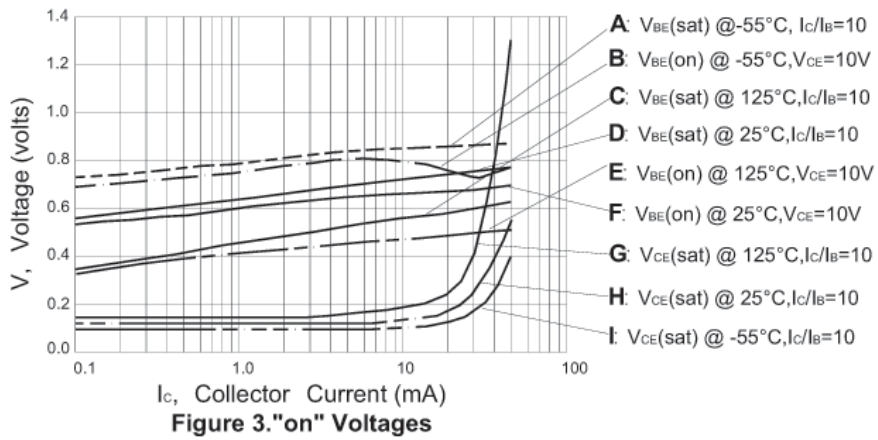


Figure 3. "on" Voltages

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

		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain						
at $I_C=1\text{mA}, V_{CE}=10\text{V}$		h_{FE}	25	-	-	-
at $I_C=10\text{mA}, V_{CE}=10\text{V}$		h_{FE}	40	-	-	-
at $I_C=30\text{mA}, V_{CE}=10\text{V}$		h_{FE}	40	-	-	-
Emitter Cutoff Current						
at $V_{EB}=6\text{V}$	MPSA 42	I_{EBO}	-	-	0.1	μA
$V_{EB}=4\text{V}$	MPSA 43	I_{EBO}	-	-	0.1	μA
Collector Cutoff Current						
at $V_{CB}=200\text{V}$	MPSA 42	I_{CBO}	-	-	0.1	μA
$V_{CB}=160\text{V}$	MPSA 43	I_{CBO}	-	-	0.1	μA
Collector Base Breakdown Voltage						
at $I_C=100\mu\text{A}$	MPSA 42	$V_{(BR)CBO}$	300	-	-	V
	MPSA 43	$V_{(BR)CBO}$	200	-	-	V
Collector Emitter Breakdown Voltage						
at $I_C=1\text{mA}$	MPSA 42	$V_{(BR)CEO}$	300	-	-	V
	MPSA 43	$V_{(BR)CEO}$	200	-	-	V
Emitter Base Breakdown Voltage						
at $I_E=100\mu\text{A}$		$V_{(BR)EBO}$	6	-	-	V
Collector Saturation Voltage						
at $I_C=20\text{mA}, I_B=2\text{mA}$		$V_{CE(sat)}$	-	-	0.5	V
Base Saturation Voltage						
at $I_C=20\text{mA}, I_B=2\text{mA}$		$V_{BE(sat)}$	-	-	0.9	V
Gain Bandwidth Product						
at $I_C=10\text{mA}, V_{CE}=20\text{V}, f=100\text{MHz}$		f_T	50	-	-	MHz
Collector Output Capacitance						
at $V_{CB}=20\text{V}, f=1\text{MHz}$	MPSA 42	C_{ob}	-	-	3	pF
	MPSA 43	C_{ob}	-	-	4	pF