

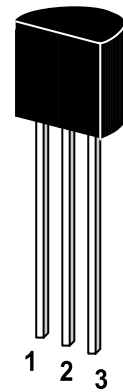
MPSA 42 / 43

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.

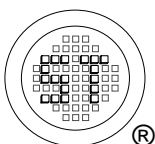


1. Emitter 2. Base 3. Collector

TO-92 Plastic Package
Weight approx. 0.19g

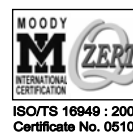
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

	Symbol	Value		Unit
		MPSA 42	MPSA 43	
Collector Base Voltage	V_{CB0}	300	200	V
Collector Emitter Voltage	V_{CE0}	300	200	V
Emitter Base Voltage	V_{EB0}	6		V
Collector Current	I_C	500		mA
Total Device Dissipation @ $T_a=25^\circ\text{C}$	P_{tot}	625		mW
Derate above 25°C		5.0		mW/ $^\circ\text{C}$
Total Device Dissipation @ $T_c=25^\circ\text{C}$	P_{tot}	1.5		W
Derate above 25°C		12		mW/ $^\circ\text{C}$
Junction Temperature	T_j	150		$^\circ\text{C}$
Storage Temperature Range	T_s	-55 to +150		$^\circ\text{C}$



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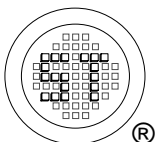


Dated : 18/06/2004

MPSA 42 / 43

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

		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $I_C=1\text{mA}, V_{CE}=10\text{V}$ at $I_C=10\text{mA}, V_{CE}=10\text{V}$ at $I_C=30\text{mA}, V_{CE}=10\text{V}$		h_{FE}	25	-	-	-
		h_{FE}	40	-	-	-
		h_{FE}	40	-	-	-
Emitter Cutoff Current at $V_{EB}=6\text{V}$ $V_{EB}=4\text{V}$	MPSA 42	I_{EBO}	-	-	0.1	μA
	MPSA 43	I_{EBO}	-	-	0.1	μA
Collector Cutoff Current at $V_{CB}=200\text{V}$ $V_{CB}=160\text{V}$	MPSA 42	I_{CBO}	-	-	0.1	μA
	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



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ISO/TS 16949 : 2002
Certificate No. 05103



ISO 14001:2004
Certificate No. 7116



ISO 9001:2000
Certificate No. 0506098

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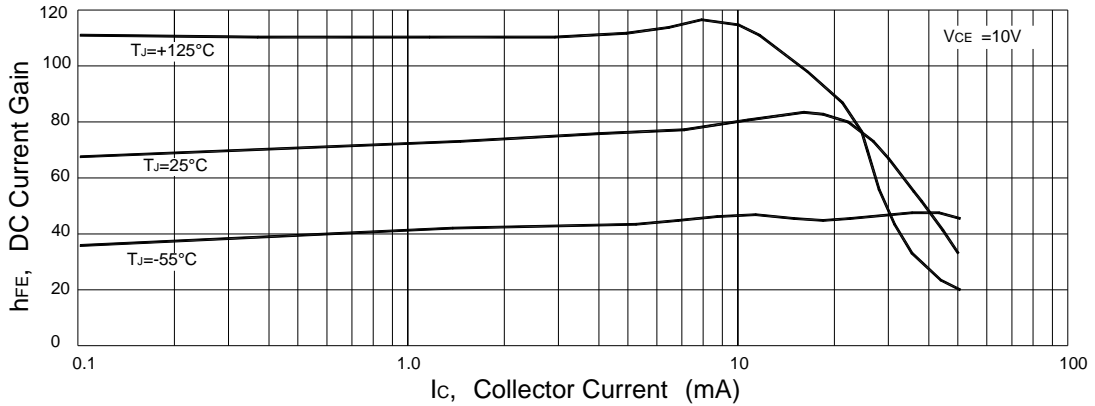


Figure 1. DC Current Gain

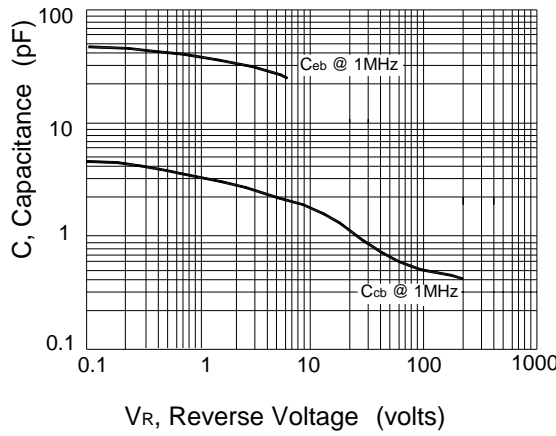


Figure 2. Capacitance

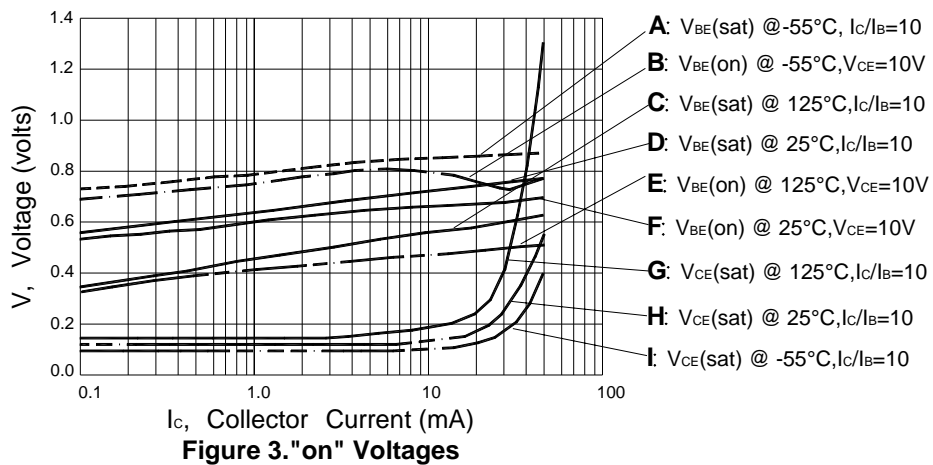
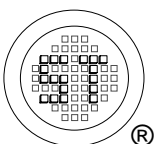


Figure 3. "on" Voltages



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