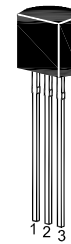


MPSA42 / 43

NPN Silicon Epitaxial Planar Transistor

for high voltage switching and amplifier applications.

complementary type the PNP transistor MPSA 92 and MPSA 93 is recommended.



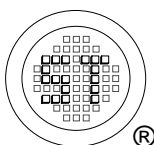
1. Emitter 2. Base 3. Collector
TO-92 Plastic Package

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

Parameter	Symbol	Value	Unit	
Collector Base Voltage	MPSA42 MPSA43	V_{CBO}	300 200	V
Collector Emitter Voltage	MPSA42 MPSA43	V_{CEO}	300 200	V
Emitter Base Voltage		V_{EBO}	6	V
Collector Current		I_C	500	mA
Power Dissipation		P_{tot}	625	mW
Junction Temperature		T_j	150	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	- 55 to + 150	$^\circ\text{C}$

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

Parameter	Symbol	Min.	Max.	Unit	
DC Current Gain					
at $V_{CE} = 10\text{ V}$, $I_C = 1\text{ mA}$	h_{FE}	25	-	-	
at $V_{CE} = 10\text{ V}$, $I_C = 10\text{ mA}$	h_{FE}	40	-	-	
at $V_{CE} = 10\text{ V}$, $I_C = 30\text{ mA}$	h_{FE}	40	-	-	
Collector Base Cutoff Current					
at $V_{CB} = 200\text{ V}$	MPSA42	I_{CBO}	-	0.1	μA
at $V_{CB} = 160\text{ V}$	MPSA43	I_{CBO}	-	0.1	μA
Emitter Base Cutoff Current					
at $V_{EB} = 6\text{ V}$	MPSA42	I_{EBO}	-	0.1	μA
at $V_{EB} = 4\text{ V}$	MPSA43	I_{EBO}	-	0.1	μA
Collector Base Breakdown Voltage					
at $I_C = 100\text{ }\mu\text{A}$	MPSA42	$V_{(BR)CBO}$	300	-	V
	MPSA43	$V_{(BR)CBO}$	200	-	V
Collector Emitter Breakdown Voltage					
at $I_C = 1\text{ mA}$	MPSA42	$V_{(BR)CEO}$	300	-	V
	MPSA43	$V_{(BR)CEO}$	200	-	V
Emitter Base Breakdown Voltage					
at $I_E = 100\text{ }\mu\text{A}$		$V_{(BR)EBO}$	6	-	V
Collector Emitter Saturation Voltage					
at $I_C = 20\text{ mA}$, $I_B = 2\text{ mA}$		$V_{CE(sat)}$	-	0.5	V
Base Emitter 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 $V_{CB} = 20\text{ V}$, $f = 1\text{ MHz}$	MPSA42	C_{ob}	-	3	pF
	MPSA43	C_{ob}	-	4	pF



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Dated : 18/06/2004

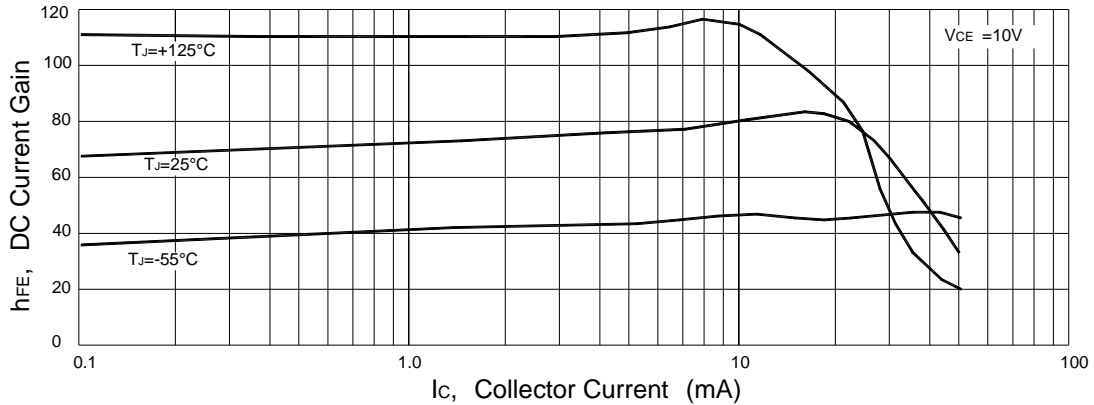


Figure 1. DC Current Gain

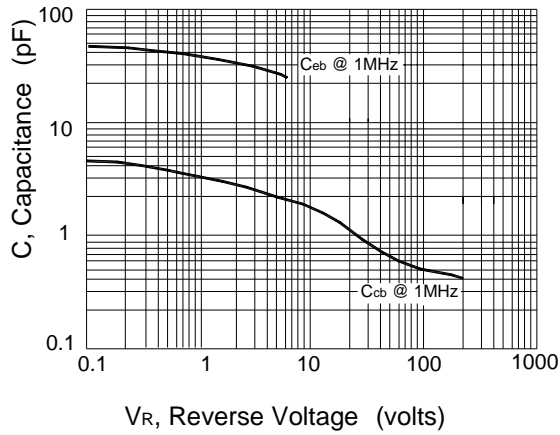


Figure 2. Capacitance

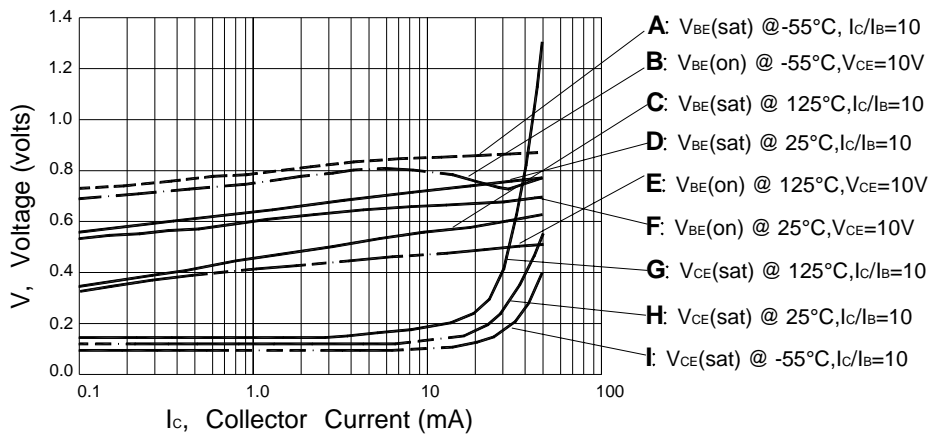
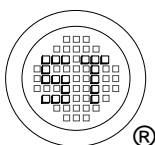


Figure 3. "on" Voltages



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