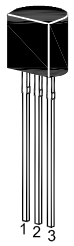
MPSA42 / 43

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 °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	°C
Storage Temperature Range		T_{stg}	- 55 to + 150	°C

Characteristics at T_a = 25 °C

Parameter		Symbol	Min.	Max.	Unit
DC Current Gain					
at V_{CE} = 10 V, I_C = 1 mA		h_{FE}	25	-	-
at V_{CE} = 10 V, I_C = 10 mA		h_{FE}	40	-	-
at V_{CE} = 10 V, I_C = 30 mA		h_{FE}	40	-	-
Collector Base Cutoff Current					
at V_{CB} = 200 V	MPSA42	I_{CBO}	-	0.1	µA
at V_{CB} = 160 V	MPSA43	I_{CBO}	-	0.1	µA
Emitter Base Cutoff Current					
at V_{EB} = 6 V	MPSA42	I_{EBO}	-	0.1	µA
at V_{EB} = 4 V	MPSA43	I_{EBO}	-	0.1	µA
Collector Base Breakdown Voltage					
at I_C = 100 µA	MPSA42	$V_{(BR)CBO}$	300	-	V
	MPSA43	$V_{(BR)CBO}$	200	-	V
Collector Emitter Breakdown Voltage					
at I_C = 1 mA	MPSA42	$V_{(BR)CEO}$	300	-	V
	MPSA43	$V_{(BR)CEO}$	200	-	V
Emitter Base Breakdown Voltage at I_E = 100 µA		$V_{(BR)EBO}$	6	-	V
Collector Emitter Saturation Voltage at I_C = 20 mA, I_B = 2 mA		$V_{CE(sat)}$	-	0.5	V
Base Emitter Saturation Voltage at I_C = 20 mA, I_B = 2 mA		$V_{BE(sat)}$	-	0.9	V
Gain Bandwidth Product at I_C = 10 mA ,V_{CE} = 20 V, f = 100 MHz		f_T	50	-	MHz
Collector Output Capacitance					
at V_{CB} = 20 V, f = 1 MHz	MPSA42	C_{ob}	-	3	pF
	MPSA43	C_{ob}	-	4	pF

Dated: 18/06/2004

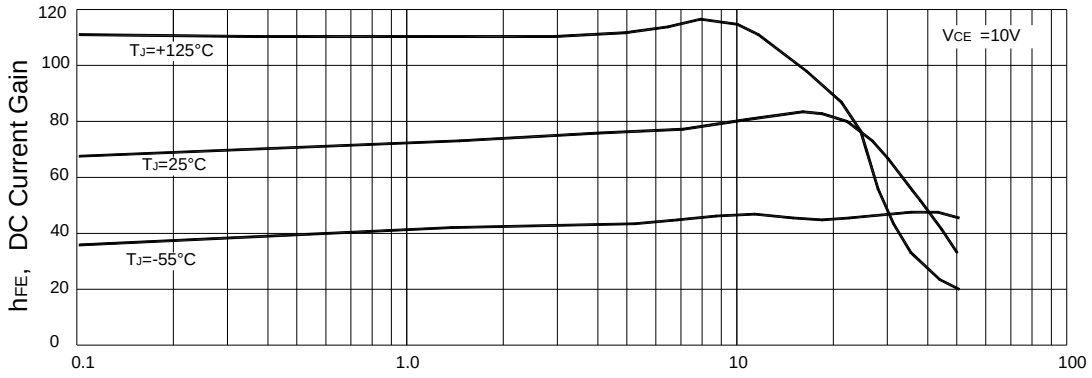


Figure 1. DC Current Gain

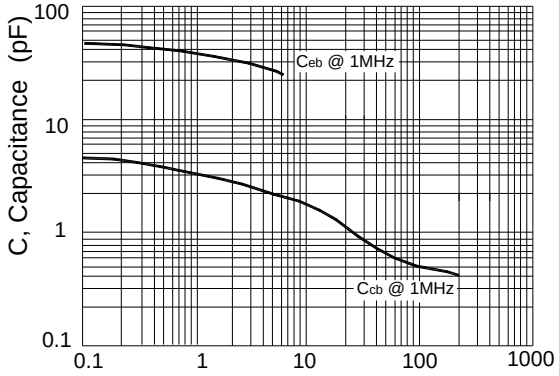


Figure 2. Capacitance

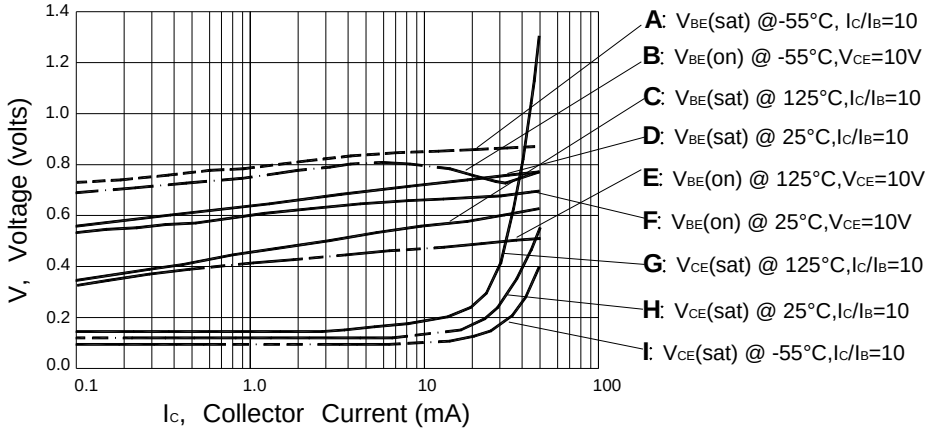


Figure 3."on" Voltages