

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	MPSA42 MPSA43	I_{CBO} I_{CBO}	- -	0.1 0.1	μA μA
Emitter Base Cutoff Current	MPSA42 MPSA43	I_{EBO} I_{EBO}	- -	0.1 0.1	μA μA
Collector Base Breakdown Voltage	MPSA42 MPSA43	$V_{(BR)CBO}$ $V_{(BR)CBO}$	300 200	- -	V V
Collector Emitter Breakdown Voltage	MPSA42 MPSA43	$V_{(BR)CEO}$ $V_{(BR)CEO}$	300 200	- -	V V
Emitter Base Breakdown Voltage		$V_{(BR)EBO}$	6	-	V
Collector Emitter Saturation Voltage		$V_{CE(sat)}$	-	0.5	V
Base Emitter Saturation Voltage		$V_{BE(sat)}$	-	0.9	V
Gain Bandwidth Product		f_T	50	-	MHz
Collector Output Capacitance	MPSA42 MPSA43	C_{ob} C_{ob}	- -	3 4	pF pF

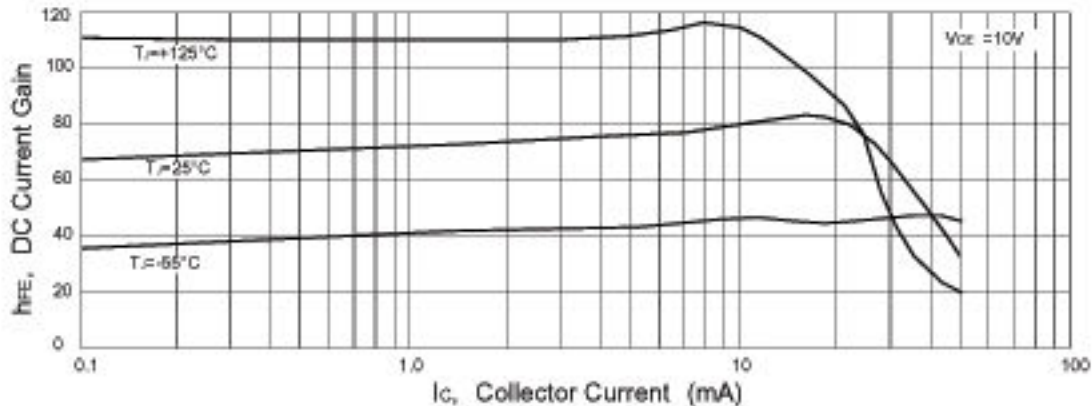


Figure 1. DC Current Gain

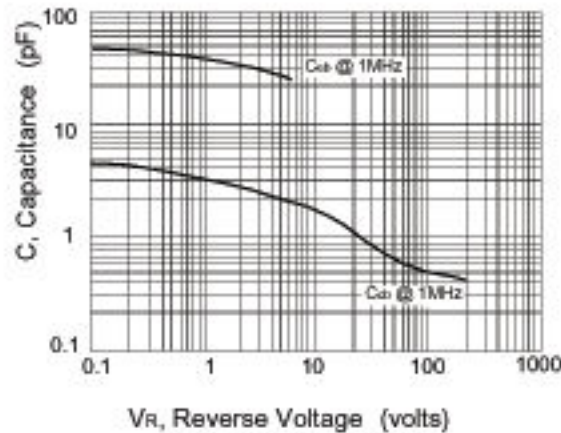


Figure 2. Capacitance

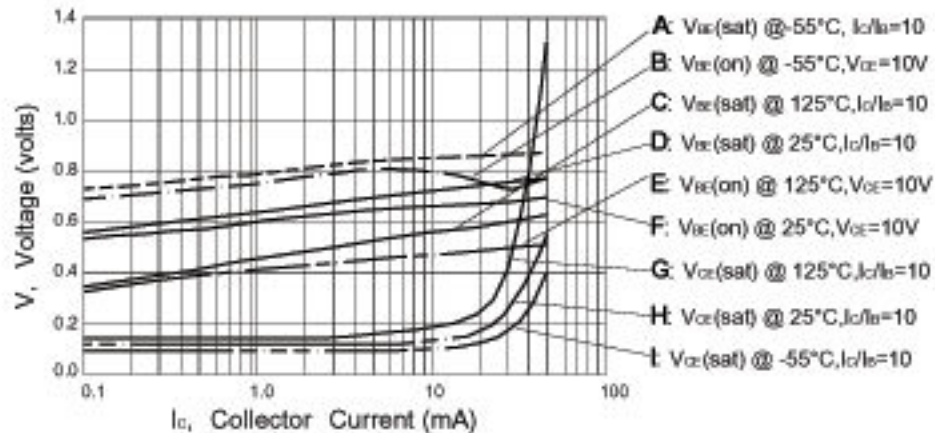


Figure 3. "on" Voltages