NPN Silicon Epitaxial Planar Transistor

for high voltage switching and amplifier applications.

As complementary type the PNP transistor MPSA94 is recommended.

On special request, these transistors can be manufactured in different pin configurations.

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

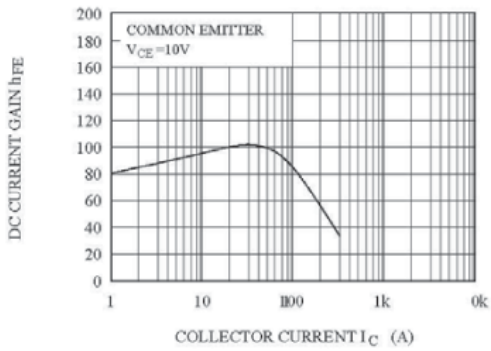
Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	500	V
Collector Emitter Voltage	V_{CEO}	400	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current	I_C	300	mA
Power Dissipation	P_{tot}	625	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

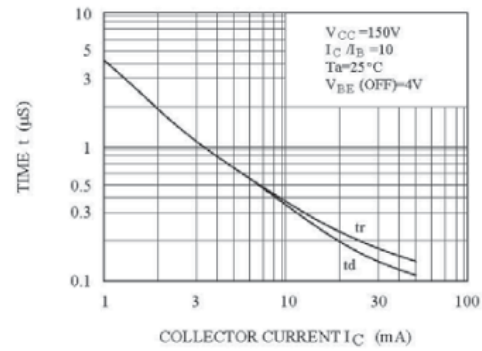
Characteristics at T_a = 25 °C

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain				
at V_{CE} = 10 V, I_C = 1 mA	h_{FE}	40	-	-
at V_{CE} = 10 V, I_C = 10 mA	h_{FE}	50	200	-
at V_{CE} = 10 V, I_C = 50 mA	h_{FE}	45	-	-
at V_{CE} = 10 V, I_C = 100 mA	h_{FE}	40	-	-
Collector Base Cutoff Current at V_{CB} = 400 V	I_{CBO}	-	0.1	µA
Collector Emitter Cutoff Current at V_{CE} = 400 V	I_{CEO}	-	0.5	µA
Emitter Base Cutoff Current at V_{EB} = 4 V	I_{EBO}	-	0.1	µA
Collector Base Breakdown Voltage at I_C = 100 µA	$V_{(BR)CBO}$	500	-	V
Collector Emitter Breakdown Voltage at I_C = 1 mA	$V_{(BR)CEO}$	400	-	V
Emitter Base Breakdown Voltage at I_E = 100 µA	$V_{(BR)EBO}$	6	-	V
Collector Emitter Saturation Voltage				
at I_C = 1 mA, I_B = 0.1 mA	$V_{CE(sat)}$	-	0.4	V
at I_C = 10 mA, I_B = 1 mA	$V_{CE(sat)}$	-	0.5	V
at I_C = 50 mA, I_B = 5 mA	$V_{CE(sat)}$	-	0.75	V
Base Emitter Saturation Voltage at I_C = 10 mA, I_B = 1 mA	$V_{BE(sat)}$	-	0.75	V
Collector Output Capacitance at V_{CB} = 20 V, f = 1 MHz	C_{ob}	-	7	pF

h_{FE} - I_C



TURN-ON SWITCHING CHARACTERISTICS



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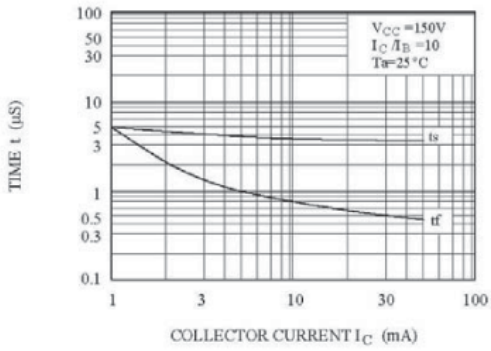
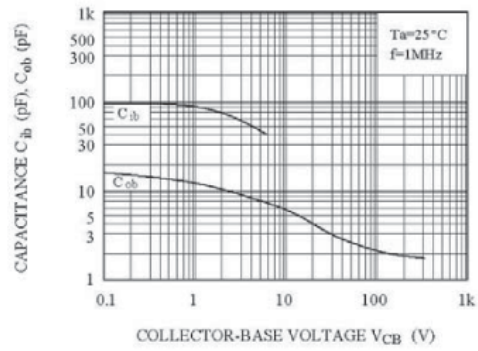
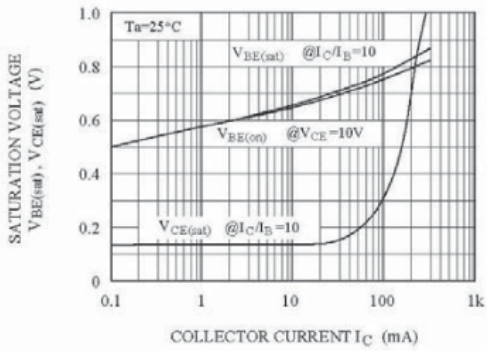


C_{ib} , C_{ob} - V_{CB}



$V_{BE(sat)}$, $V_{CE(sat)}$ - I_C



COLLECTOR SATURATION REGION