

# NPN SILICON PLANAR HIGH VOLTAGE TRANSISTOR

## MPSA42

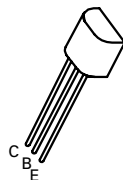
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### FEATURES

- \* High voltage

### APPLICATIONS

- \* Telephone dialler circuit



E-Line  
TO92 Compatible

### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	300	V
Collector-Emitter Voltage	$V_{CEO}$	300	V
Emitter-Base Voltage	$V_{EBO}$	6	V
Continuous Collector Current	$I_C$	500	mA
Power Dissipation at $T_{amb}=25^{\circ}C$	$P_{tot}$	680	mW
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +175	$^{\circ}C$

### ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ ).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	300			V	$I_C=100\mu A, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	300			V	$I_C=1mA, I_B=0^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	6			V	$I_E=100\mu A, I_C=0$
Collector Cut-Off Current	$I_{CBO}$			0.1	$\mu A$	$V_{CB}=200V, I_E=0$
Emitter Cut-Off Current	$I_{EBO}$			0.1	$\mu A$	$V_{EB}=6V, I_C=0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.5	V	$I_C=20mA, I_B=2mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			0.9	V	$I_C=20mA, I_B=2mA^*$
Static Forward Current Transfer Ratio	$h_{FE}$	25 40 40				$I_C=1mA, V_{CE}=10V^*$ $I_C=10mA, V_{CE}=10V^*$ $I_C=30mA, V_{CE}=10V^*$
Transition Frequency	$f_T$	50			MHz	$I_C=10mA, V_{CE}=20V$ $f=20MHz$
Output Capacitance	$C_{obo}$			6	pF	$V_{CB}=20V, f=1MHz$

\*Measured under pulsed conditions. Pulse width=300 $\mu s$ . Duty cycle  $\leq 2\%$

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## TYPICAL CHARACTERISTICS

