



# MPSA194

## PNP SILICON TRANSISTOR

### PNP EPITAXIAL SILICON TRANSISTOR

■ DESCRIPTION

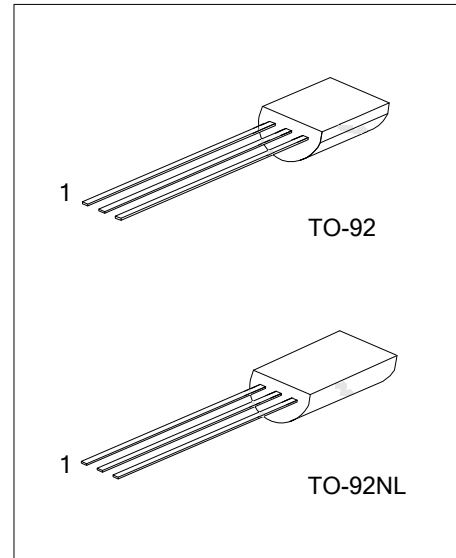
The UTC **MPSA194** is designed for high voltage low power switching applications especially for use in telephone and telecommunication circuits.

■ FEATURES

- \* Collector-Emitter Voltage:  $V_{CEO}=400V$
- \* Power Dissipation: 1.0W

■ APPLICATIONS

- \* Telephone Circuit
- \* Telecommunication Circuit



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MPSA194L-T92-C-B	MPSA194G-T92-C-B	TO-92	E	B	C	Tape Box
MPSA194L-T92-C-K	MPSA194G-T92-C-K	TO-92	E	B	C	Bulk
MPSA194L-T92-A-B	MPSA194G-T92-A-B	TO-92	E	C	B	Tape Box
MPSA194L-T92-A-K	MPSA194G-T92-A-K	TO-92	E	C	B	Bulk
MPSA194L-T9N-B	MPSA194G-T9N-B	TO-92NL	E	C	B	Tape Box
MPSA194L-T9N-K	MPSA194G-T9N-K	TO-92NL	E	C	B	Bulk

Note: Pin assignment: B: Base C: Collector E: Emitter

<p>MPSA194L-T92-x-B</p> <p>(1) Packing Type (2) Pin Assignment (3) Package Type (4) Green Package</p>	<p>(1) B: Tape Box, K: Bulk (2) A: ECB, C: EBC (3) T92: TO-92, T9N: TO-92NL (4) L: Lead Free, G: Halogen Free and Lead Free</p>
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■ MARKING INFORMATION

TO-92	TO-92NL

### ■ ABSOLUTE MAXIMUM RATINGS

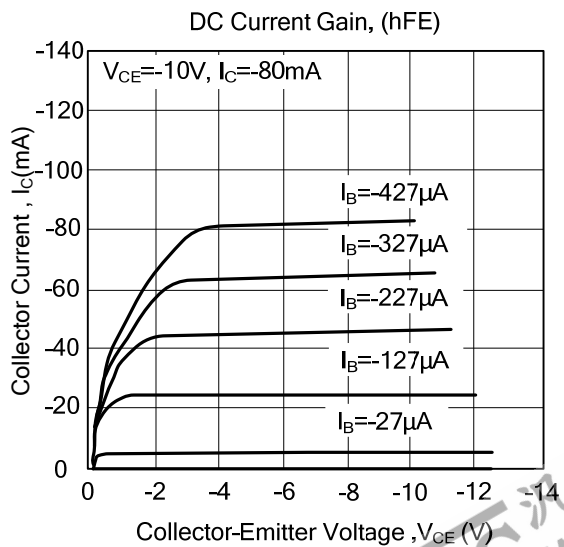
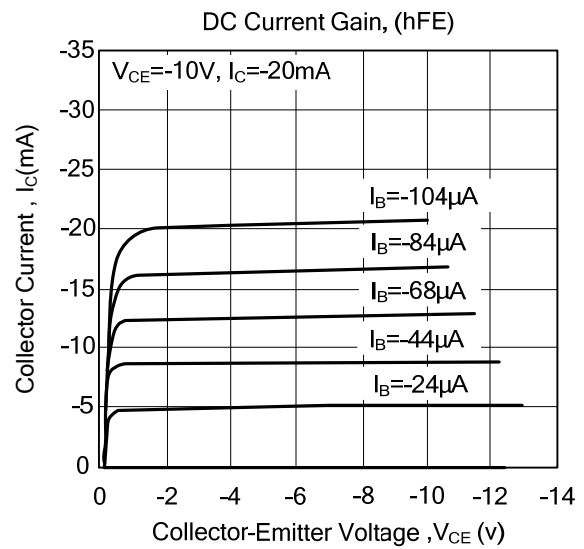
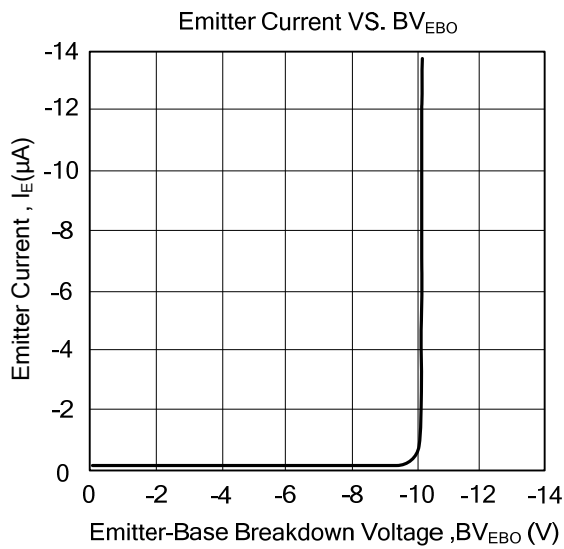
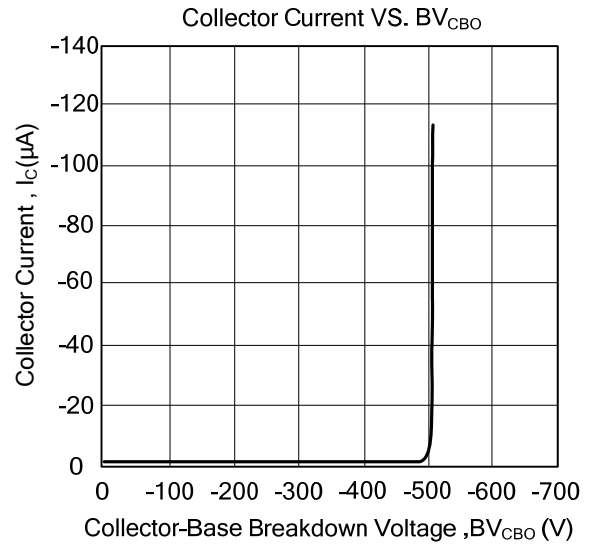
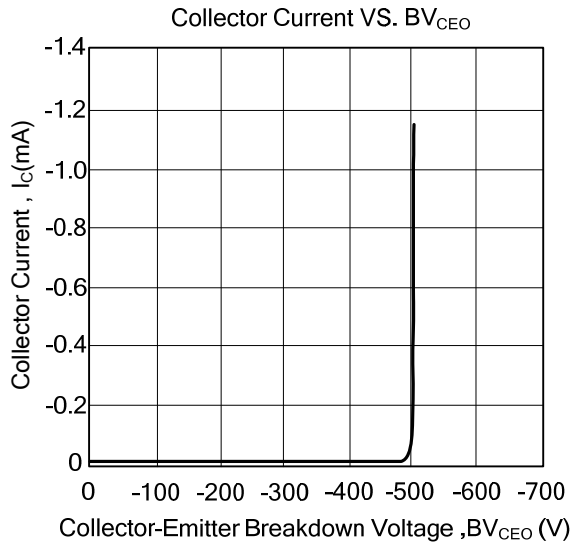
PARAMETER	SYMBOL	RATINGS	UNIT
Collector to Base Voltage	$V_{CBO}$	-400	V
Collector to Emitter Voltage	$V_{CEO}$	-400	V
Emitter to Base Voltage	$V_{EBO}$	-6	V
Collector Current	$I_C$	-800	mA
Collector Dissipation ( $T_A=25^\circ\text{C}$ )	$P_C$	1.0	W
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-55 ~ +150	$^\circ\text{C}$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

### ■ ELECTRICAL CHARACTERISTICS ( $T_J=25^\circ\text{C}$ , unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C = -100\mu\text{A}$ , $I_E = 0\text{A}$	-400			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C = -1\text{mA}$ , $I_B = 0\text{A}$	-400			V
Collect Cut-off Current	$I_{CBO}$	$V_{CB} = -400\text{V}$ , $I_E = 0\text{A}$			-10	$\mu\text{A}$
Collect Cut-off Current	$I_{CEO}$	$V_{CB} = -200\text{V}$ , $V_{BE} = 0\text{V}$			-1	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = -6\text{V}$ , $I_C = 0\text{A}$			-0.2	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE} = -10\text{V}$ , $I_C = -1\text{mA}$	50			
		$V_{CE} = -10\text{V}$ , $I_C = -20\text{mA}$	50		800	
		$V_{CE} = -10\text{V}$ , $I_C = -80\text{mA}$	40			
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C = -20\text{mA}$ , $I_B = -2\text{mA}$			-0.9	V
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = -20\text{mA}$ , $I_B = -4\text{mA}$			-0.2	V
		$I_C = -80\text{mA}$ , $I_B = -2\text{mA}$			-1.2	V
Output Capacitance	$C_{OB}$	$V_{CB} = -20\text{V}$ , $I_E = 0\text{A}$ , $f = 1\text{MHz}$			30	pF
Current Gain Bandwidth Product	$f_T$	$V_{CE} = -20\text{V}$ , $I_E = -10\text{A}$ , $f = 1\text{MHz}$	10			MHz

### TYPICAL CHARACTERISTICS



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