



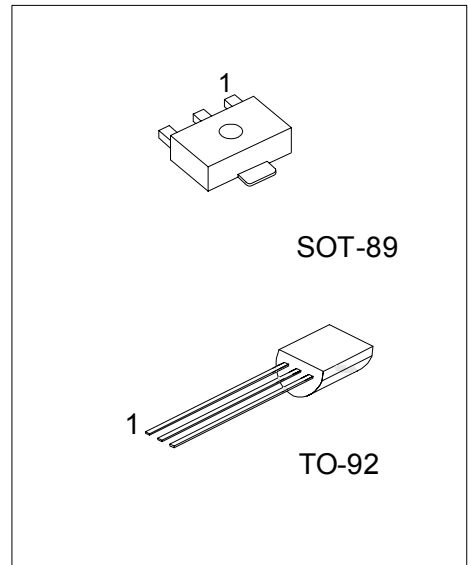
## MPSA94

PNP EPITAXIAL SILICON TRANSISTOR

### HIGH VOLTAGE TRANSISTOR

#### ■ FEATURES

- \* Collector-Emitter voltage:  
 $V_{CE0} = -400V$
- \* Collector Dissipation:  
 $P_{D(MAX)} = 625mW$
- \* Low collector-Emitter saturation voltage



\*Pb-free plating product number: MPSA94L

#### ■ ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
MPSA94-AB3-F-R	MPSA94-AB3-F-R	SOT-89	B	C	E	Tape Reel
MPSA94-T92-C-B	MPSA94-T92-C-B	TO-92	E	B	C	Tape Box
MPSA94-T92-C-K	MPSA94-T92-C-K	TO-92	E	B	C	Bulk

<p>MPSA94L-AB3-F-R</p>	<p>(1)Packing Type (2)Pin Assignment (3)Package Type (4)Lead Plating</p> <p>(1) B: Tape Box, K: Bulk, R: Tape Reel (2) refer to Pin Assignment (3) T92: TO-92, AB3: SOT-89 (4) L: Lead Free Plating, Blank: Pb/Sn</p>
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■ **ABSOLUTE MAXIMUM RATING** (Operating temperature range applies unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	$V_{CBO}$	-400	V
Collector-Emitter Voltage	$V_{CEO}$	-400	V
Emitter-Base Voltage	$V_{EBO}$	-6	V
Collector Power Dissipation( $T_a=25^\circ\text{C}$ )	TO-92	$P_D$	625
	SOT-89		0.5
Collector Current	$I_C$	-300	mA
Junction Temperature	$T_J$	+150	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-40 ~ +150	$^\circ\text{C}$

Note Absolute maximum ratings are those values beyond which the device could be permanently damaged.

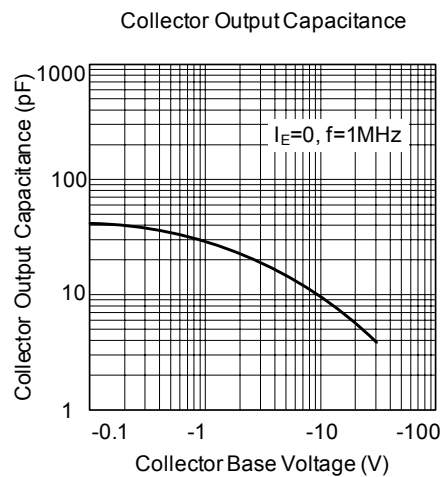
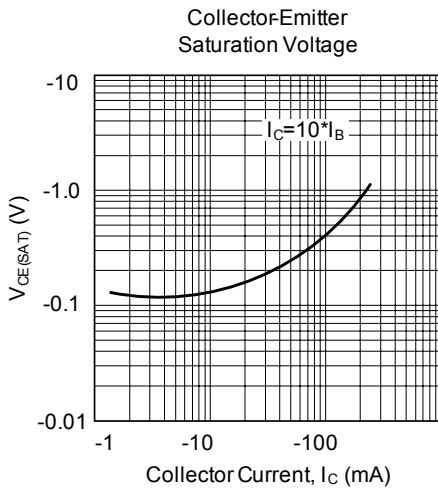
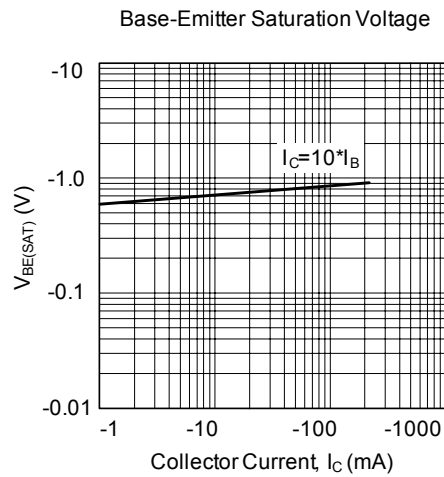
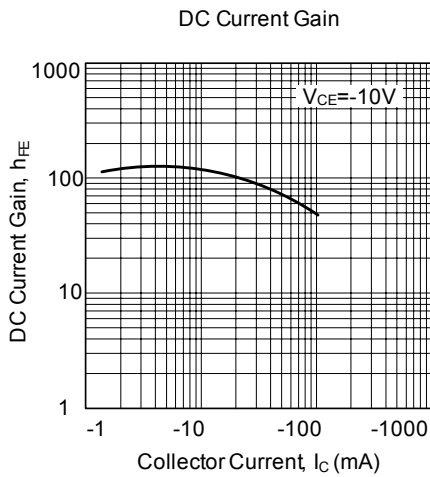
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C=-100\mu\text{A}, I_E=0$	-400			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=-1\text{mA}, I_B=0$	-400			V
Collector-Emitter Breakdown Voltage	$BV_{CES}$	$I_C=-100\mu\text{A}, V_{BE}=0$	-400			V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_E=-100\mu\text{A}, I_C=0$	-5			V
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=-300\text{V}, I_E=0$			-100	nA
Collector Cut-off Current	$I_{CES}$	$V_{CB}=-400\text{V}, V_{BE}=0$			-1	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=-4\text{V}, I_C=0$			100	nA
DC Current Gain(note)	$h_{FE}$	$V_{CE}=-10\text{V}, I_C=-1\text{mA}$	60			
		$V_{CE}=-10\text{V}, I_C=-10\text{mA}$	70		300	
		$V_{CE}=-10\text{V}, I_C=-50\text{mA}$	70			
		$V_{CE}=-10\text{V}, I_C=-100\text{mA}$	40			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=-10\text{mA}, I_B=-1\text{mA}$ $I_C=-50\text{mA}, I_B=-5\text{mA}$			-0.20 -0.5	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=-10\text{mA}, I_B=-1\text{mA}$			-0.75	V
Output Capacitance	$C_{ob}$	$V_{CB}=-20\text{V}, I_E=0, f=1\text{MHz}$			7	pF

Note: Pulse test:  $PW < 300\mu\text{s}$ , Duty Cycle  $< 2\%$

## ■ TYPICAL CHARACTERISTICS



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