



MPSA92/93

PNP SILICON TRANSISTOR

HIGH VOLTAGE PNP TRANSISTOR

DESCRIPTION

The UTC **MPSA92/93** are high voltage PNP transistors, designed for telephone signal switching and for high voltage amplifier.

FEATURES

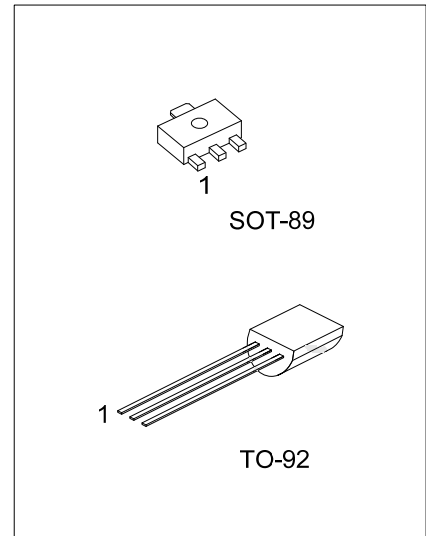
* High Collector-Emitter voltage:

– $V_{CE0} = -300V$ (UTC **MPSA92**)

– $V_{CE0} = -200V$ (UTC **MPSA93**)

* Collector Dissipation:

– $P_C(max) = 625mW$



ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MPSA92L-AB3-R	MPSA92G-AB3-R	SOT-89	B	C	E	Tape Reel
MPSA93L-AB3-R	MPSA93G-AB3-R	SOT-89	B	C	E	Tape Reel
MPSA92L-T92-B	MPSA92G-T92-B	TO-92	E	B	C	Tape Box
MPSA92L-T92-K	MPSA92G-T92-K	TO-92	E	B	C	Bulk
MPSA92L-T92-R	MPSA92G-T92-R	TO-92	E	B	C	Tape Reel
MPSA93L-T92-B	MPSA93G-T92-B	TO-92	E	B	C	Tape Box
MPSA93L-T92-K	MPSA93G-T92-K	TO-92	E	B	C	Bulk
MPSA93L-T92-R	MPSA93G-T92-R	TO-92	E	B	C	Tape Reel

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

<p>MPSA92L-AB3-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Lead Free</p>	<p>(1) B: Tape Box, K: Bulk, R: Tape Reel</p> <p>(2) AB3: SOT-89, T92: TO-92</p> <p>(3) G: Halogen Free, L: Lead Free</p>
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■ ABSOLUTE MAXIMUM RATING ($T_A=25^\circ\text{C}$ unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage	MPSA92	V_{CBO}	-300	V
	MPSA93		-200	V
Collector-Emitter Voltage	MPSA92	V_{CEO}	-300	V
	MPSA93		-200	V
Emitter-Base Voltage		V_{EBO}	-5	V
Collector Current		I_C	-500	mA
Collector Dissipation	SOT-89	P_C	1	W
	TO-92		1.5	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.

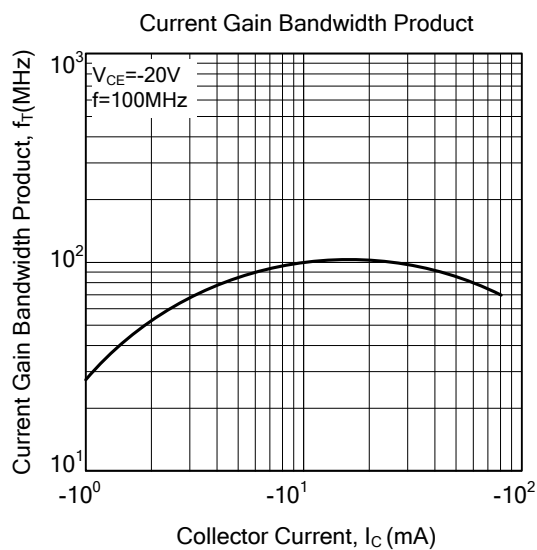
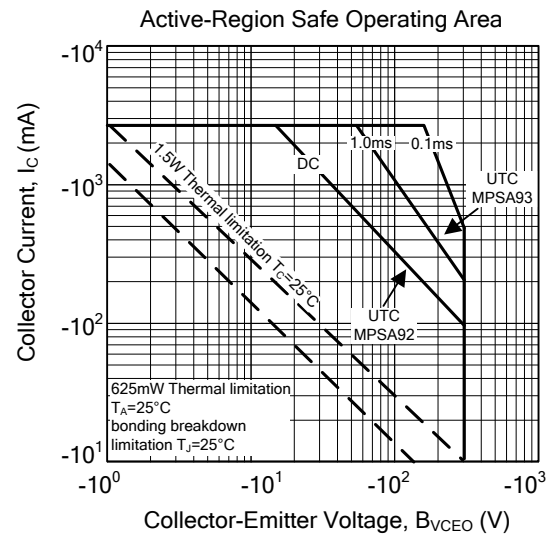
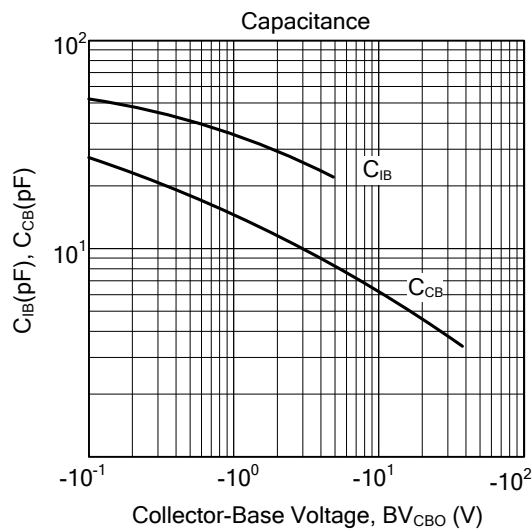
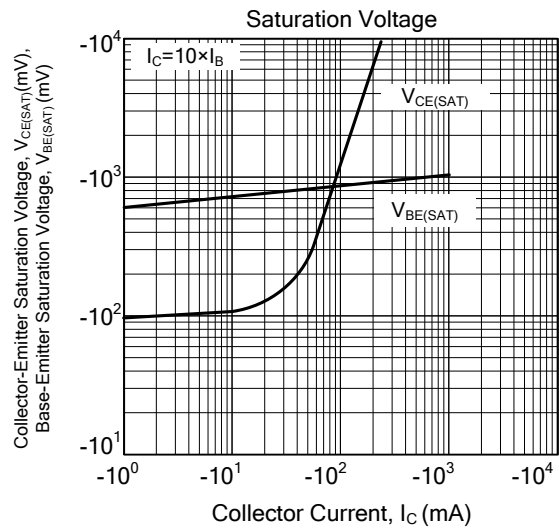
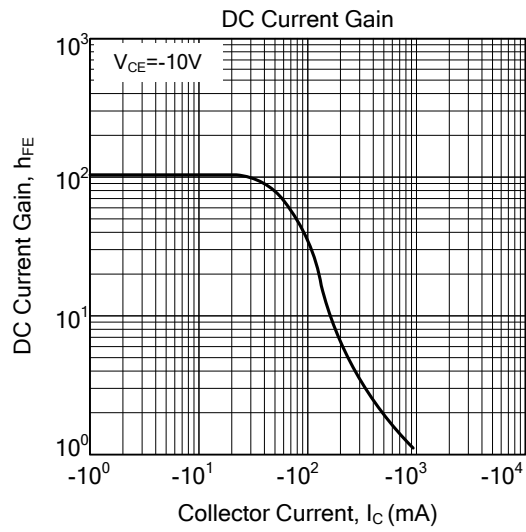
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

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

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT		
OFF CHARACTERISTICS									
Collector-Base Breakdown Voltage	MPSA92	BV_{CBO}	$I_C=-100\mu\text{A}, I_E=0$	-300			V		
	MPSA93			-200			V		
Collector-Emitter Breakdown Voltage	MPSA92	BV_{CEO}	$I_C=-1\text{mA}, I_B=0$	-300			V		
	MPSA93			-200			V		
Emitter-Base Breakdown Voltage		BV_{EBO}	$I_E=-100\mu\text{A}, I_C=0$	-5			V		
Collector Cut-Off Current	MPSA92	I_{CBO}	$V_{CB}=-200\text{V}, I_E=0$			-0.25	μA		
	MPSA93					-0.25	μA		
Emitter Cut-Off Current		I_{EBO}	$V_{EB}=-3\text{V}, I_C=0$			-0.10	μA		
ON CHARACTERISTICS									
DC Current Gain(note)			h_{FE}	$V_{CE}=-10\text{V}, I_C=-1\text{mA}$	60				
					$V_{CE}=-10\text{V}, I_C=-10\text{mA}$	80			
					$V_{CE}=-10\text{V}, I_C=-30\text{mA}$	80			
Collector-Emitter Saturation Voltage		$V_{CE(SAT)}$	$I_C=-20\text{mA}, I_B=-2\text{mA}$			-0.5	V		
Base-Emitter Saturation Voltage		$V_{BE(SAT)}$	$I_C=-20\text{mA}, I_B=-2\text{mA}$			-0.90	V		
SMALL SIGNAL CHARACTERISTICS									
Current Gain Bandwidth Product		f_T	$V_{CE}=-20\text{V}, I_C=-10\text{mA}, f=100\text{MHz}$	50			MHz		
Output Capacitance	MPSA92	C_{ob}	$V_{CB}=-20\text{V}, I_E=0, f=1\text{MHz}$			6	pF		
	MPSA93					8	pF		

Note: Pulse test: $P_W < 300\mu\text{s}$, Duty Cycle $< 2\%$, $V_{CE(SAT)} < 200\text{mV}$

TYPICAL CHARACTERISTICS



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