

# UTCMPSA92/93 PNP EPITAXIAL SILICON TRANSISTOR

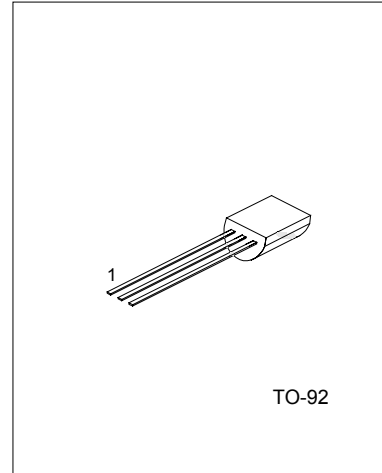
## HIGH VOLTAGE PNP TRANSISTOR

### 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:  
 $P_c(\max) = 625mW$



1:EMITTER 2:BASE 3:COLLECTOR

### ABSOLUTE MAXIMUM RATINGS ( Operating temperature range applies unless otherwise specified )

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V <sub>CB0</sub>	-300	V
UTC MPSA92		-200	
Collector-Emitter Voltage	V <sub>CE0</sub>	-300	V
UTC MPSA92		-200	
Emitter-Base Voltage	V <sub>EB0</sub>	-5	V
Collector Dissipation (T <sub>a</sub> =25°C)	P <sub>c</sub>	625	mW
Derate Above 25°C		5	mW/°C
Collector Current	I <sub>c</sub>	-500	mA
Collector Dissipation (T <sub>c</sub> =25°C)	P <sub>c</sub>	1.5	W
Derate Above 25°C		12	mW/°C
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>STG</sub>	-55 ~ +150	°C

### ELECTRICAL CHARACTERISTICS (T<sub>j</sub>=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV <sub>CB0</sub>	I <sub>c</sub> = -100μA, I <sub>E</sub> = 0	-300			V
UTC MPSA92			-200			
Collector-Emitter Breakdown Voltage	BV <sub>CE0</sub>	I <sub>c</sub> = -1mA, I <sub>B</sub> = 0	-300			V
UTC MPSA92			-200			
Emitter-Base Breakdown Voltage	BV <sub>EB0</sub>	I <sub>E</sub> = -100μA, I <sub>c</sub> = 0	-5			V
Collector Cut-Off Current	I <sub>CBO</sub>	V <sub>CB</sub> = -200V, I <sub>E</sub> = 0			-0.25	μA
UTC MPSA92			V <sub>CB</sub> = -160V, I <sub>E</sub> = 0			

# UTCMPSA92/93 PNP EPITAXIAL SILICON TRANSISTOR

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Emitter Cut-Off Current	IEBO	VEB=-3V, Ic=0			-0.10	μA
DC Current Gain(note)	hFE	VCE=-10V, Ic=-1mA VCE=-10V, Ic=-10mA VCE=-10V, Ic=-30mA	60 80 80			
Collector-Emitter Saturation Voltage	VCE(sat)1	Ic=-20mA, IB=-2mA			-0.5	V
Base-Emitter Saturation Voltage	VBE(sat)1	Ic=-20mA, IB=-2mA			-0.90	V
Current Gain Bandwidth Product	fT	VCE=-20V, Ic=-10mA, f=100MHz	50			MHz
Collector Base Capacitance UTC MPSA92 UTC MPSA93	Ccb	VCB=-20V, IE=0 f=1MHz			6 8	pF

Note: Pulse test: PW<300μs, Duty Cycle<2%, VCE(SAT)1<200mV(Class SIN)

## TYPICAL PERFORMANCE CHARACTERISTICS

Fig.1 DC Current Gain

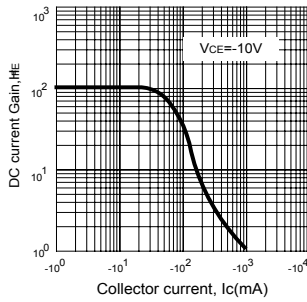


Fig.2 Saturation Voltage

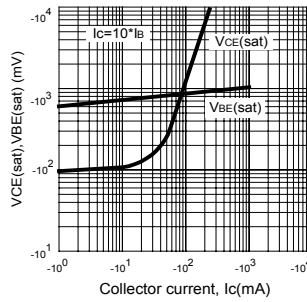


Fig.3 Capacitance

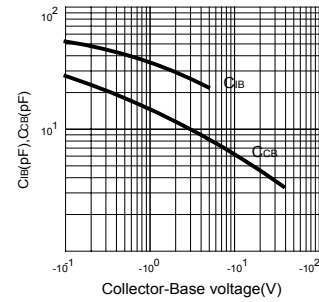


Fig.4 Active-region safe operating area

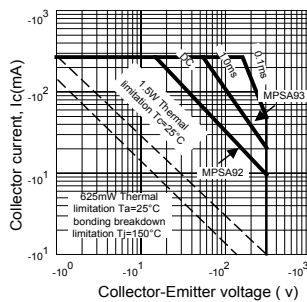
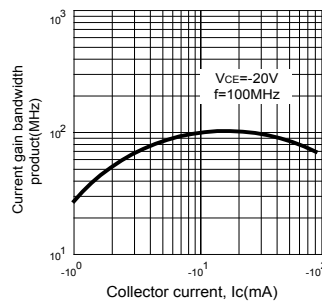


Fig.5 Current Gain Bandwidth product



## UTCMPSA92/93 PNP EPITAXIAL SILICON TRANSISTOR

UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.