UTC MPSA92/93 PNP EPITAXIAL SILICON TRANSISTOR

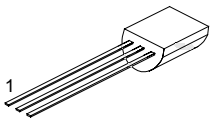
HIGH VOLTAGE PNP TRANSISTOR

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_{CEO}=-300V(UTC MPSA92)
  V_{CEO}=-200V(UTC MPSA93)
*Collector Dissipation:
  Pc(max)=625mW



TO-92

1:EMITTER 2:BASE 3:COLLECTOR

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

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage			V
UTC MPSA92	V_{CBO}	-300	
UTC MPSA93		-200	
Collector-Emitter Voltage			V
UTC MPSA92	V_{CEO}	-300	
UTC MPSA93		-200	
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Dissipation (Ta=25°C)	Pc	625	mW
Derate Above 25℃		5	mW/℃
Collector Current	Ic	-500	mA
Collector Dissipation (Tc=25°C)	Pc	1.5	W
Derate Above 25℃		12	mW/℃
Junction Temperature	T_j	150	°C
Storage Temperature	T_{STG}	-55 ~ +150	°C

ELECTRICAL CHARACTERISTICS(Tj=25°C,unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=-100μA, I_E=0				
UTC MPSA92			-300			V
UTC MPSA93			-200			
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=-1mA, I_B=0				
UTC MPSA92			-300			V
UTC MPSA93			-200			
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=-100μA, I_C=0	-5			V
Collector Cut-Off Current	I_{CBO}					
UTC MPSA92		V_{CB}=-200V, I_E=0			-0.25	μA
UTC MPSA93		V_{CB}=-160V, I_E=0			-0.25	

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PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Emitter Cut-Off Current	I_{EBO}	V_{EB}=-3V, Ic=0			-0.10	μA
DC Current Gain(note)	h_{FE}	V_{CE}=-10V, Ic=-1mA V_{CE}=-10V, Ic=-10mA V_{CE}=-10V, Ic=-30mA	60 80 80			
Collector-Emitter Saturation Voltage	V_{CE}(sat)1	Ic=-20mA, I_B=-2mA			-0.5	V
Base-Emitter Saturation Voltage	V_{BE}(sat)1	Ic=-20mA, I_B=-2mA			-0.90	V
Current Gain Bandwidth Product	fT	V_{CE}=-20V, Ic=-10mA, f=100MHz	50			MHz
Collector Base Capacitance UTC MPSA92 UTC MPSA93	Ccb	V_{CB}=-20V, IE=0 f=1MHz			 6 8	 pF

Note:Pulse test: PW<300μs, Duty Cycle<2%, $V_{CE(SAT)1}$<200mV(Class SIN)

TYPICAL PERFORMANCE CHARACTERISTICS

Fig.1 DC Current Gain

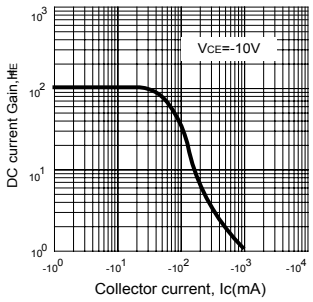

Fig.2 Saturation Voltage

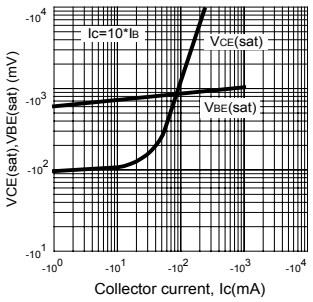

Fig.3 Capacitance

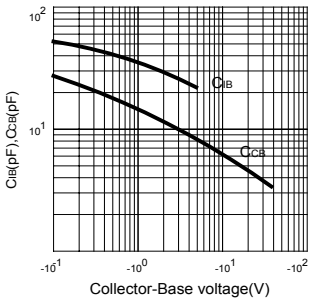

Fig.4 Active-region safe operating area

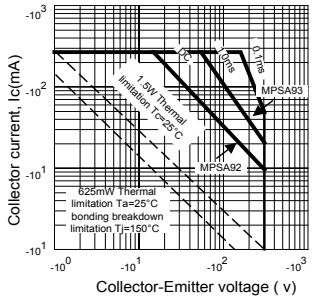

Fig.5 Current Gain Bandwidth product