UTC MPSA42/43 NPN EPITAXIAL SILICON TRANSISTOR

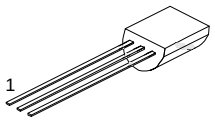
HIGH VOLTAGE TRANSISTOR

DESCRIPTION

The UTC MPSA42/43 are high voltage transistors, designed for telephone switch and high voltage switch.

FEATURES

*Collector-Emitter voltage:
V_{CEO}=300V(UTC MPSA42)
V_{CEO}=200V(UTC MPSA43)
*High current gain
*Complement to UTC MPSA92/93
*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 UTC MPSA42 UTC MPSA43	V_{CBO}	 300 200	V
Collector-Emitter Voltage UTC MPSA42 UTC MPSA43	V_{CEO}	 300 200	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Dissipation	Pc	625	mW
Collector Current	Ic	500	mA
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 UTC MPSA42 UTC MPSA43	BV_{CBO}	I_C=100μA,I_E=0	 300 200			V
Collector-Emitter Breakdown Voltage UTC MPSA42 UTC MPSA43	BV_{CEO}	I_C=1mA,I_B=0	 300 200			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=100μA,Ic=0	6			V
Collector Cut-Off Current UTC MPSA42 UTC MPSA43	I_{CBO}	 V_{CB}=200V,I_E=0 V_{CB}=160V,I_E=0			 100 100	nA
Emitter Cut-Off Current UTC MPSA42 UTC MPSA43	I_{EBO}	 V_{BE}=6V,Ic=0 V_{BE}=4V,Ic=0			 100 100	nA

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
DC Current Gain(note)	h_{FE}	V_{CE}=10V,Ic=1mA V_{CE}=10V,Ic=10mA V_{CE}=10V,Ic=30mA	80 80 80		300	
Collector-Emitter Saturation Voltage	V_{CE}(sat)	Ic=20mA,I_B=2mA			0.2	V
Base-Emitter Saturation Voltage	V_{BE}(sat)	Ic=20mA,I_B=2mA			0.90	V
Current Gain Bandwidth Product	f_T	V_{CE}=20V,Ic=10mA, f=100MHz	50			MHz
Collector Base Capacitance UTCMPSA42 UTCMPSA43	Ccb	V_{CB}=20V,IE=0 f=1MHz			 3 4	 pF

TYPICAL PERFORMANCE CHARACTERISTICS

Fig.1 DC Current Gain

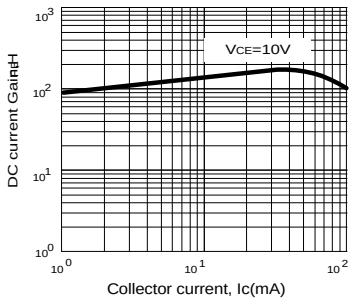


Fig.2 Saturation Voltage

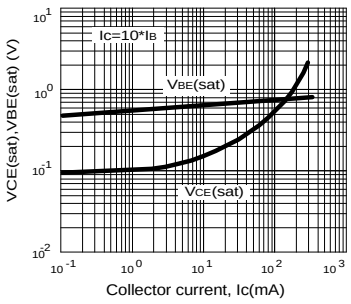


Fig.3 Capacitance

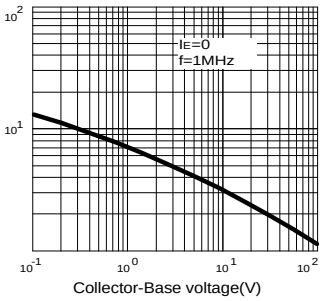


Fig.4 Current Gain Bandwidth product