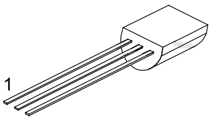
UTC S8050 NPN EPITAXIAL SILICON TRANSISTOR

LOW VOLTAGE HIGH CURRENT SMALL SIGNAL NPN TRANSISTOR



TO-92

1:EMITTER 2:BASE 3: COLLECTOR

DESCRIPTION

The UTC S8050 is a low voltage high current small signal NPN transistor, designed for Class B push-pull audio amplifier and general purpose applications.

FEATURES

- *Collector current up to 700mA
- *Collector-Emitter voltage up to 20 V
- *Complementary to S8550

ABSOLUTE MAXIMUM RATINGS (Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	20	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Dissipation(Ta=25°C)	Pc	1	W
Collector Current	Ic	700	mA
Junction Temperature	T_j	150	°C
Storage Temperature	T_{STG}	-65 ~ +150	°C

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	Ic=100µA,I_E=0	30			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	Ic=1mA,I_B=0	20			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=100µA,Ic=0	5			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=30V,I_E=0			1	µA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=5V,Ic=0			100	nA
DC Current Gain(note)	hFE_1 hFE2 hFE3	V_{CE}=1V,Ic=1mA V_{CE}=1V,Ic=150 mA V_{CE}=1V,Ic=500mA	100 120 40	 110 	 400 	
Collector-Emitter Saturation Voltage	V_{CE}(sat)	Ic=500mA,I_B=50mA			0.5	V
Base-Emitter Saturation Voltage	V_{BE}(sat)	Ic=500mA,I_B=50mA			1.2	V
Base-Emitter Saturation Voltage	V_{BE}	V_{CE}=1V,Ic=10mA			1.0	V
Current Gain Bandwidth Product	f_T	V_{CE}=10V,Ic=50mA	100			MHz
Output Capacitance	Cob	V_{CB}=10V,I_E=0 f=1MHz		9.0		pF

CLASSIFICATION OF hFE2

RANK	C	D	E
RANGE	120-200	160-300	280-400

TYPICAL PERFORMANCE CHARACTERISTICS

Fig.1 Static characteristics

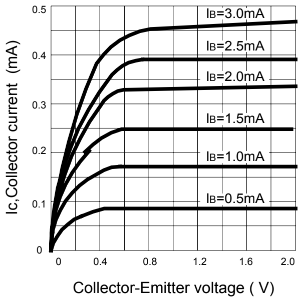


Fig.2 DC current Gain

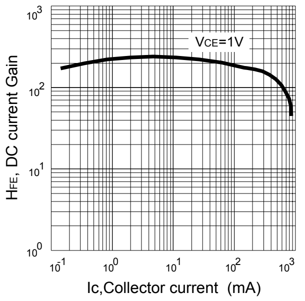


Fig.3 Base-Emitter on Voltage

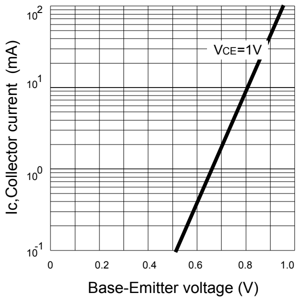


Fig.4 Saturation voltage

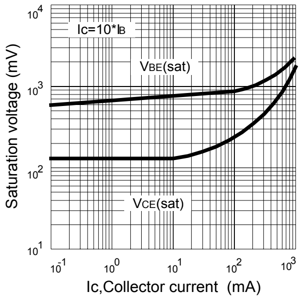


Fig.5 Current gain-bandwidth product

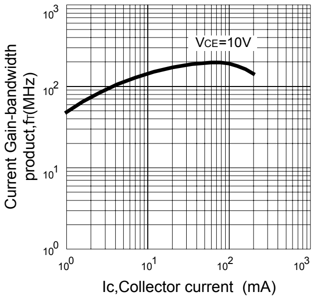


Fig.6 Collector output Capacitance