

UTC S8050 NPN EPITAXIAL SILICON TRANSISTOR

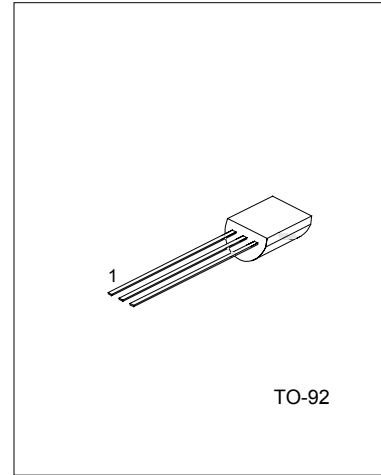
LOW VOLTAGE HIGH CURRENT SMALL SIGNAL NPN TRANSISTOR

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



1:EMITTER 2:BASE 3: COLLECTOR

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

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V _{CB0}	30	V
Collector-Emitter Voltage	V _{CEO}	20	V
Emitter-Base Voltage	V _{EBO}	5	V
Collector Dissipation(Ta=25°C)	P _c	1	W
Collector Current	I _c	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 _{CB0}	I _c =100μA, I _E =0	30			V
Collector-Emitter Breakdown Voltage	BV _{CEO}	I _c =1mA, I _B =0	20			V
Emitter-Base Breakdown Voltage	BV _{EBO}	I _E =100μA, I _c =0	5			V
Collector Cut-Off Current	I _{CB0}	V _{CB} =30V, I _E =0			1	μA
Emitter Cut-Off Current	I _{EBO}	V _{EB} =5V, I _c =0			100	nA
DC Current Gain(note)	hFE ₁	V _{CE} =1V, I _c =1mA	100	110	400	
	hFE ₂	V _{CE} =1V, I _c =150 mA	120			
	hFE ₃	V _{CE} =1V, I _c =500mA	40			
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _c =500mA, I _B =50mA			0.5	V
Base-Emitter Saturation Voltage	V _{BE(sat)}	I _c =500mA, I _B =50mA			1.2	V
Base-Emitter Saturation Voltage	V _{BE}	V _{CE} =1V, I _c =10mA			1.0	V
Current Gain Bandwidth Product	f _T	V _{CE} =10V, I _c =50mA	100			MHz
Output Capacitance	C _{ob}	V _{CB} =10V, I _E =0 f=1MHz		9.0		pF

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CLASSIFICATION OF hFE2

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

TYPICAL PERFORMANCE CHARACTERISTICS

Fig.1 Static characteristics

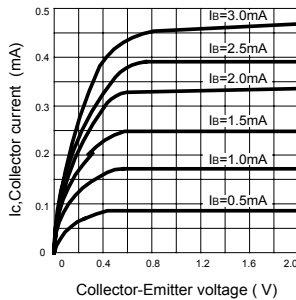


Fig.2 DC current Gain

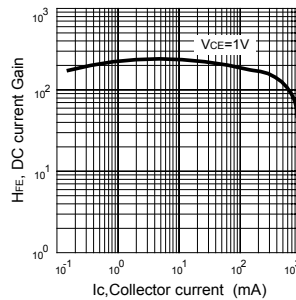


Fig.3 Base-Emitter on Voltage

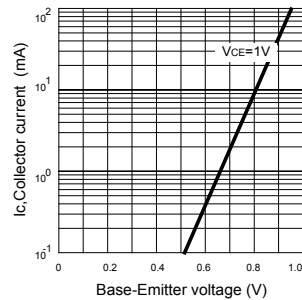


Fig.4 Saturation voltage

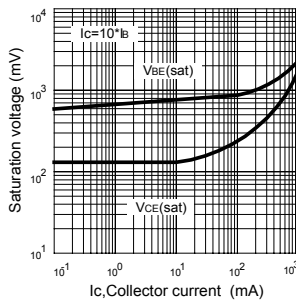


Fig.5 Current gain-bandwidth product

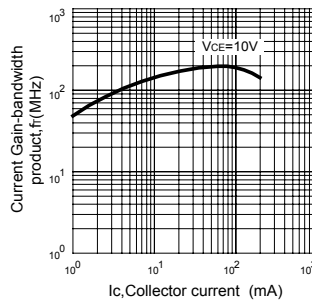
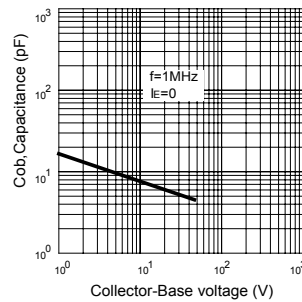


Fig.6 Collector output Capacitance



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