



UP1753

NPN SILICON TRANSISTOR

HIGH CURRENT LOW $V_{CE(SAT)}$ TRANSISTOR

DESCRIPTION

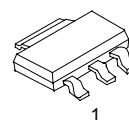
The UTC **UP1753** is specially designed to have high current and low $V_{CE(SAT)}$ to suit for power amplifier application and power switching application.

FEATURES

* $V_{CE(SAT)}$ typ is below 300mV at 5A

* Max continuous current 6 A

* BV_{CEO} is 100V minimum



SOT-223

*Pb-free plating product number: UP1753L

ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
UP1753-AA3-R	UP1753L-AA3-R	SOT-223	B	C	E	Tape Reel
UP1753-AA3-T	UP1753L-AA3-T	SOT-223	B	C	E	Tube

<p>UP1753L-AA3-R</p> <p>(1)Packing Type</p> <p>(2)Package Type</p> <p>(3)Lead Plating</p>	<p>(1) R: Tape Reel, T: Tube</p> <p>(2) AA3: SOT-223</p> <p>(3) L: Lead Free Plating, Blank: Pb/Sn</p>
---	--

■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	200	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	6	V
Peak Pulse Current	I_{CM}	10	A
Continuous Collector Current	I_C	6	A
Power Dissipation ($T_a = 25^\circ\text{C}$)	P_D	3	W
Junction Temperature	T_J	+150	
Storage Temperature	T_{STG}	-55 ~ +150	

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

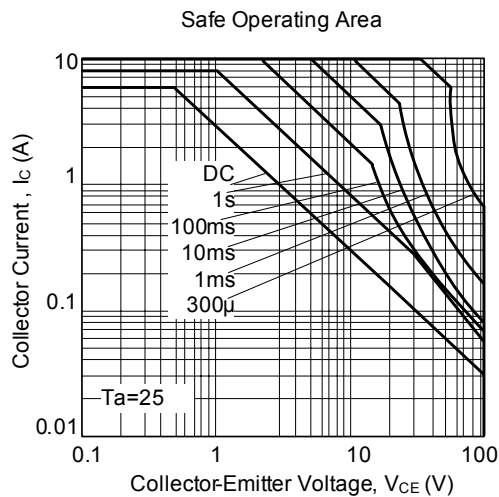
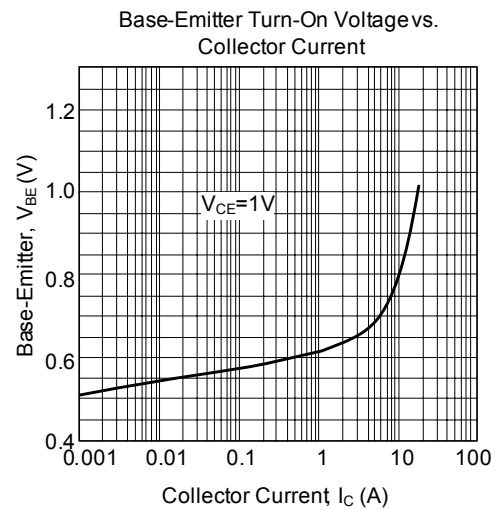
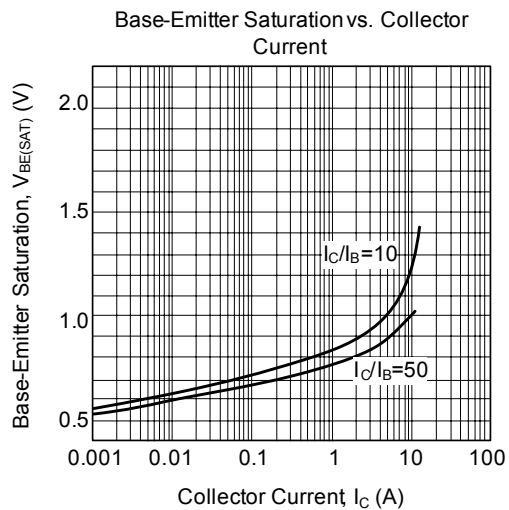
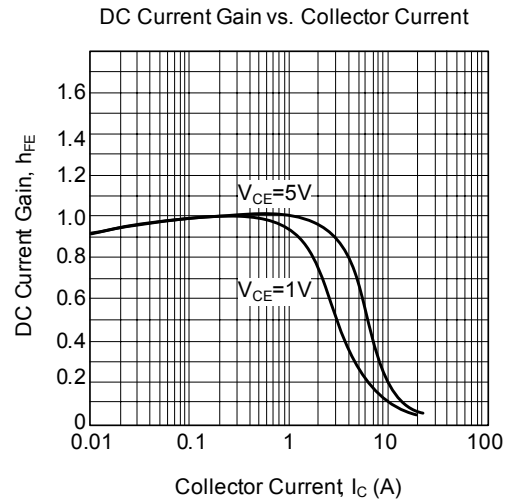
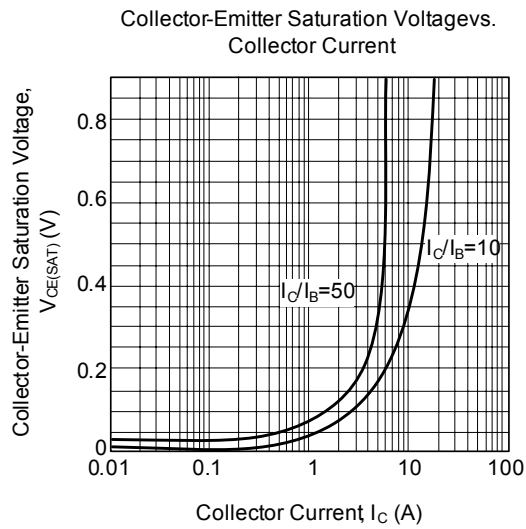
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS $T_a = 25^\circ\text{C}$ (unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = 100\mu\text{A}$	200	300		V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = 10\text{mA}$ (Note1)	100	120		V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = 100\mu\text{A}$	6	8		V
Collector Cut-Off Current	I_{CBO}	$V_{CB} = 150\text{V}$			10	nA
Collector Cut-Off Current	I_{CER}	$V_{CE} = 150\text{V}$, $R_s \leq 1\text{K}\Omega$			10	nA
Emitter Cut-Off Current	I_{EBO}	$V_{EB} = 6\text{V}$			10	nA
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = 0.1\text{A}$, $I_B = 5\text{mA}$ (Note1)			50	mV
		$I_C = 2\text{A}$, $I_B = 100\text{mA}$ (Note1)			150	mV
		$I_C = 5\text{A}$, $I_B = 500\text{mA}$ (Note1)			330	mV
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C = 5\text{A}$, $I_B = 500\text{mA}$ (Note1)			1250	mV
Base-Emitter Turn-On Voltage	$V_{BE(ON)}$	$I_C = 5\text{A}$, $V_{CE} = 2\text{V}$ (Note1)			1100	mV
Static Forward Current Transfer Ratio	h_{FE}	$I_C = 10\text{mA}$, $V_{CE} = 2\text{V}$	100	200		
		$I_C = 2\text{A}$, $V_{CE} = 2\text{V}$ (Note1)	100	200	300	
		$I_C = 4\text{A}$, $V_{CE} = 2\text{V}$ (Note1)	50	100		
		$I_C = 10\text{A}$, $V_{CE} = 2\text{V}$ (Note1)	20			
Transition Frequency	f_T	$I_C = 100\text{mA}$, $V_{CE} = 10\text{V}$ $f = 50\text{MHz}$		100		MHz
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}$, $f = 1\text{MHz}$		38		pF
Switching Times	t_{ON}	$I_C = 1\text{A}$, $V_{CC} = 10\text{V}$		50		ns
	t_{OFF}	$I_{B1} = I_{B2} = 100\text{mA}$		1600		ns

Note: 1. Measured under pulsed conditions. Pulse width = 300 μs . Duty cycle $\leq 2\%$.

■ TYPICAL CHARACTERISTICS



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.