



UP1753

NPN SILICON TRANSISTOR

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

DESCRIPTION

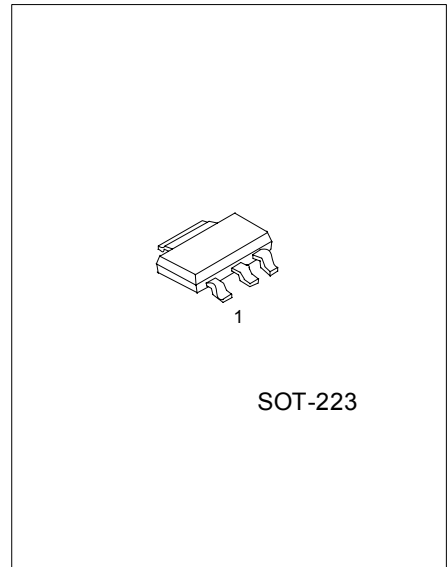
The UTC **UP1753** is specially designed to have high current and low $V_{CE(SAT)}$ to suit for power amplifier application and power switching application.

FEATURES

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

* Max continuous current 6 A

* BV_{CEO} is 100V minimum.



*Pb-free plating product number: UP1753L

ORDERING INFORMATION

Order 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

<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</p> <p>(2) AA3: SOT-223</p> <p>(3) L: Lead Free Plating, Blank: Pb/Sn</p>
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■ 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 at $T_a = 25$	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.

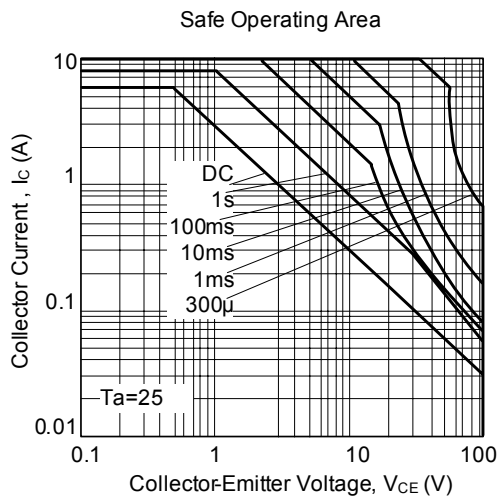
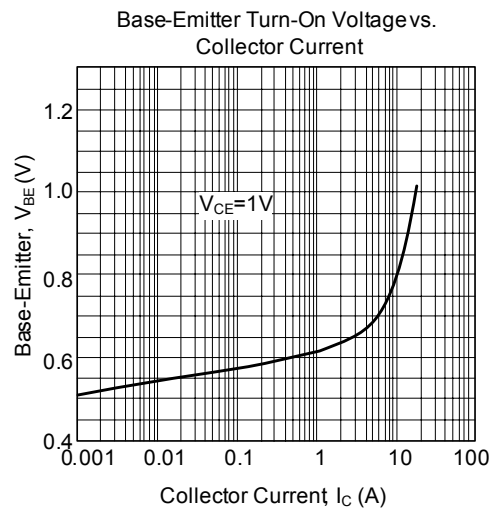
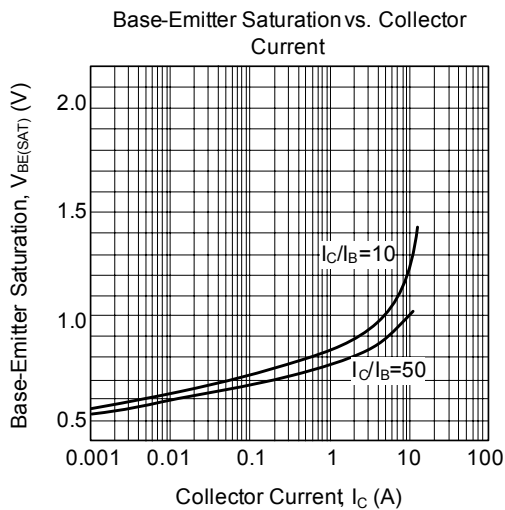
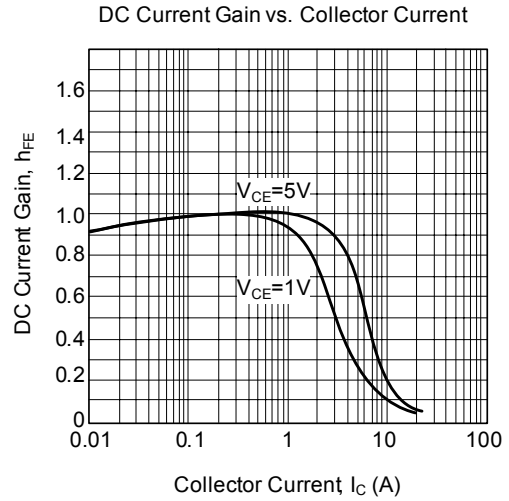
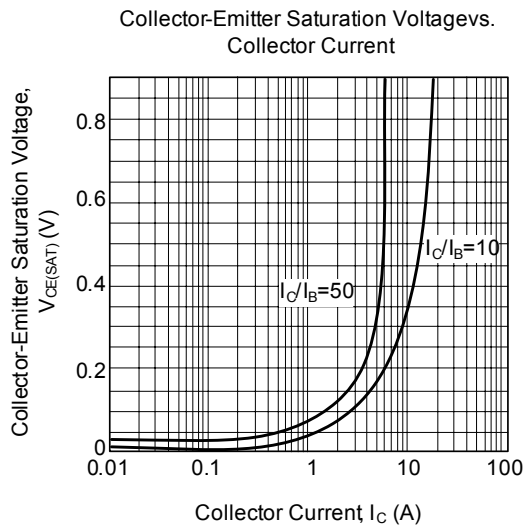
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS $T_a = 25$ (unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = 100\mu A$	200	300		V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = 10mA$ (Note1)	100	120		V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_C = 100\mu A$	6	8		V
Collector Cut-Off Current	I_{CBO}	$V_{CB} = 150V, T_a = 25$ $V_{CB} = 150V$ $T_a = 100$			10 1	nA μA
Collector Cut-Off Current	I_{CER}	$R \leq 1K\Omega$ $V_{CB} = 150V, T_a = 25$ $V_{CB} = 150V, T_a = 100$			10 1	nA μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB} = 6V$			10	nA
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = 0.1A, I_B = 5mA$ (Note1) $I_C = 2A, I_B = 100mA$ (Note1) $I_C = 5A, I_B = 500mA$ (Note1)			50 150 330	mV mV mV
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C = 5A, I_B = 500mA$ (Note1)			1250	mV
Base-Emitter Turn-On Voltage	$V_{BE(ON)}$	$I_C = 5A, V_{CE} = 2V$ (Note1)			1100	mV
Static Forward Current Transfer Ratio	h_{FE}	$I_C = 10mA, V_{CE} = 2V$ $I_C = 2A, V_{CE} = 2V$ (Note1) $I_C = 4A, V_{CE} = 2V$ (Note1) $I_C = 10A, V_{CE} = 2V$ (Note1)	100 100 50 20	200 200 100	300	
Transition Frequency	f_T	$I_C = 100mA, V_{CE} = 10V, f = 50MHz$		100		MHz
Output Capacitance	C_{ob}	$V_{CB} = 10V, f = 1MHz$		38		pF
Switching Times	t_{ON}	$I_C = 1A, V_{CC} = 10V$		50		ns
	t_{OFF}	$I_{B1} = I_{B2} = 100mA$		1600		ns

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

TYPICAL CHARACTERISTICS



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