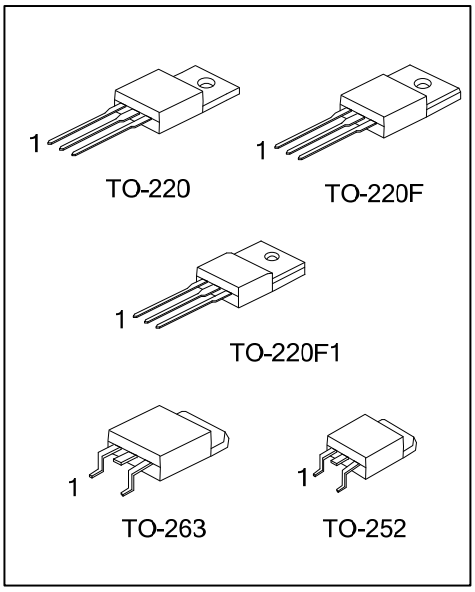
BTC1510F3

NPN SILICON TRANSISTOR

NPN EPITAXIAL PLANAR TRANSISTOR



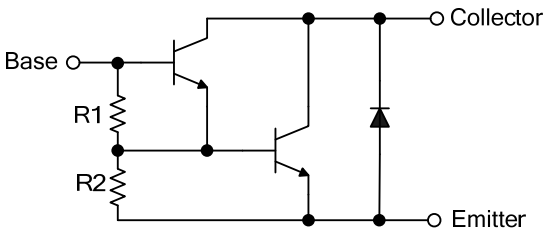
■ DESCRIPTION

As a NPN Darlington transistor the UTC **BTC1510F3** is designed for general purpose amplifier and low speed switching application.

■ FEATURES

* Very high BV_{CEO}
* Very low $V_{CE(SAT)}$
* Very high current gain

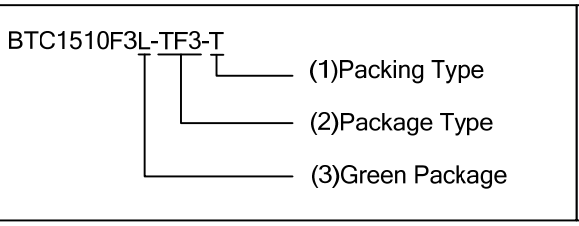
■ EQUIVALENT CIRCUIT



■ ORDERING INFORMATION

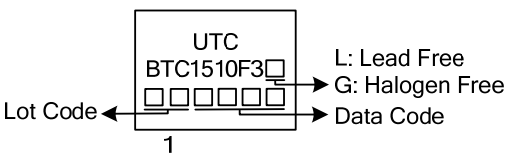
Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
BTC1510F3L-TA3-T	BTC1510F3G-TA3-T	TO-220	B	C	E	Tube
BTC1510F3L-TF3-T	BTC1510F3G-TF3-T	TO-220F	B	C	E	Tube
BTC1510F3L-TF1-T	BTC1510F3G-TF1-T	TO-220F1	B	C	E	Tube
BTC1510F3L-TN3-R	BTC1510F3G-TN3-R	TO-252	B	C	E	Tape Reel
BTC1510F3L-TQ2-T	BTC1510F3G-TQ2-T	TO-263	B	C	E	Tube
BTC1510F3L-TQ2-R	BTC1510F3G-TQ2-R	TO-263	B	C	E	Tape Reel

Note: Pin Assignment: B: Base C: Collector E: Emitter



(1) T: Tube, R: Tape Reel
(2) TA3: TO-220, TF3: TO-220F, TF1: TO-220F1
TN3: TO-252, TQ2: TO-263
(3) L: Lead Free, G: Halogen Free and Lead Free

■ MARKING



Copyright © 2014 Unisonic Technologies Co., Ltd

■ ABSOLUTE MAXIMUM RATING (T_A=25°C, unless otherwise specified)

PARAMETER			SYMBOL	RATINGS	UNIT
Collector-Base Voltage			V_{CBO}	150	V
Collector-Emitter Voltage			V_{CEO}	150	V
Emitter-Base Voltage			V_{EBO}	5	V
Collector Current	DC		I_C	10	A
	Pulse(Note 2)			15	
Collector Dissipation	T_A=25°C	TO-220/TO-220F TO-220F1	P_D	2	W
		TO-252		1.1	W
		TO-263		2	W
	T_C=25°C	TO-220		72	W
		TO-220F/TO-220F1		36	W
		TO-252		44	W
		TO-263		60	W
Junction Temperature			T_J	150	°C
Storage Temperature			T_{STG}	-55 ~ +150	°C

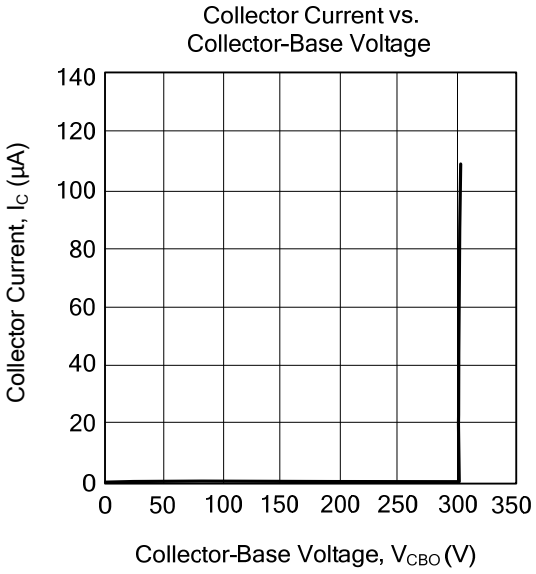
Notes: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.
2. Pulse test: Pulse Width=100ms

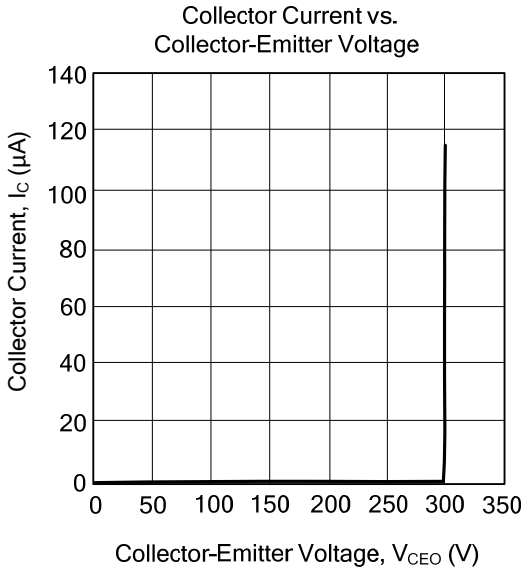
■ ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=100μA, I_E=0	150			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=5mA, I_B=0	150			V
Base-Emitter Turn-On Voltage (Note)	$V_{BE(ON)}$	V_{CE}=3V, I_C=5A			2.8	V
		V_{CE}=3V, I_C=10A			4.5	
	V_{FEC}	I_C=5A			3	V
Collector Cutoff Current	I_{CBO}	V_{CB}=150V, I_E=0			200	μA
Collector Cutoff Current	I_{CEO}	V_{CE}=150V, I_E=0			200	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=5V, I_C=0			2	mA
ON CHARACTERISTICS						
DC Current Gain (Note)	h_{FE}	V_{CE}=3V, I_C=5A	2		20	K
		V_{CE}=3V, I_C=10A	100			
Base-Emitter Saturation Voltage(Note)	$V_{BE(SAT)}$	I_C=5A, I_B=5mA			2	V
Collector-Emitter Saturation Voltage (Note)	$V_{CE(SAT)}$	I_C=5A, I_B=10mA			1.5	V
		I_C=10A, I_B=100mA			3	
		I_C=5A, I_B=2.5mA			2	

Note: Pulse test: Pulse Width≦380μs, Duty Cycle≦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.