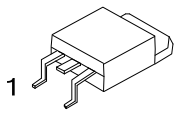
BTC1510

NPN SILICON TRANSISTOR

NPN EPITAXIAL PLANAR TRANSISTOR



TO-252

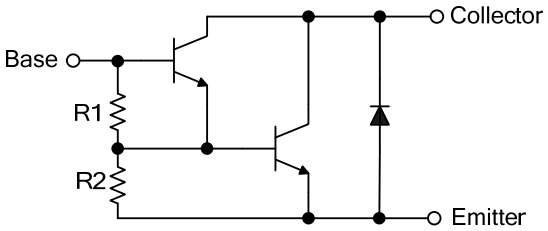
■ DESCRIPTION

As a NPN Darlington transistor the UTC **BTC1510** 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



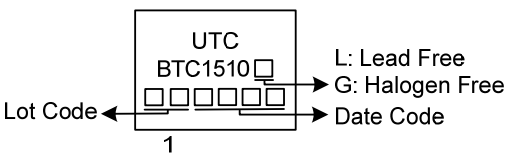
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
BTC1510L-TN3-R	BTC1510G-TN3-R	TO-252	B	C	E	Tape Reel

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

BTC1510G-TN3-R (1)Packing Type (2)Package Type (3)Green Package	(1) R: Tape Reel (2) TN3: TO-252 (3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



■ 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	A
Collector Dissipation	T_A=25°C	P_D	1.1	W
	T_C=25°C		44	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
Forward Voltage	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	V
		I_C=5A, I_B=2.5mA			2	V

Note: Pulse test: Pulse Width≦380μs, Duty Cycle≦2%