



BTC1510F3

Preliminary

NPN SILICON TRANSISTOR

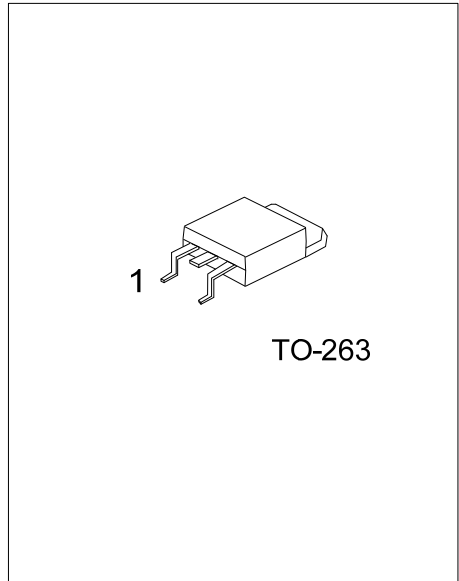
NPN EPITAXIAL PLANAR TRANSISTOR

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



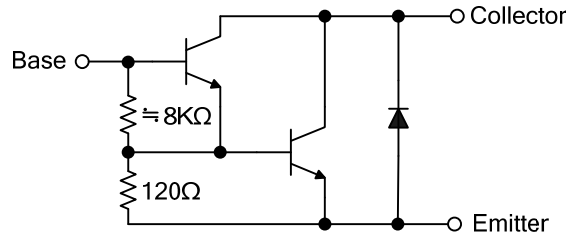
Lead-free: BTC1510F3L
 Halogen-free: BTC1510F3G

ORDERING INFORMATION

Ordering Number			Package	Pin Assignment			Packing
Normal	Lead Free	Halogen Free		1	2	3	
BTC1510F3-TQ2-R	BTC1510F3L-TQ2-R	BTC1510F3G-TQ2-R	TO-263	B	C	E	Tape Reel
BTC1510F3-TQ2-T	BTC1510F3L-TQ2-T	BTC1510F3G-TQ2-T	TO-263	B	C	E	Tube

<p>BTC1510F3L-TQ2-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) TQ2: TO-263</p> <p>(3) G: Halogen Free, L: Lead Free, Blank: Pb/Sn</p>
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■ EQUIVALENT CIRCUIT



■ ABSOLUTE MAXIMUM RATING (T_a=25°C)

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	10	A
	Pulse(Note 2)	15	
Collector Dissipation	T _a =25°C	2	W
	T _C =25°C	60	
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55 ~ +150	°C

Note: 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 =1mA, 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%

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