



5302

NPN SILICON TRANSISTOR

HIGH VOLTAGE NPN TRANSISTOR

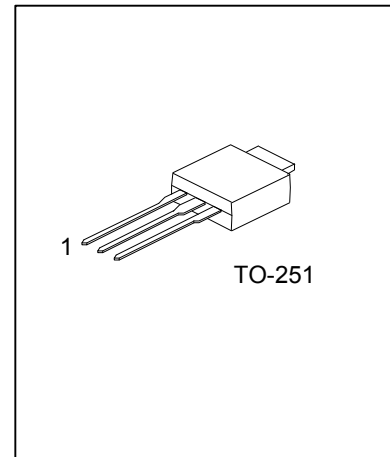
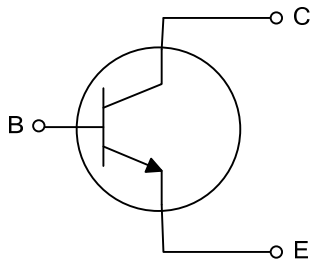
DESCRIPTION

The UTC 5302 is a NPN silicon planar transistor and suited to be used in power amplifier applications.

FEATURES

- * Makes efficient anti-saturation operation
- * Low variable storage-time spread
- * Low base drive
- * Very suitable for half bridge light ballast application

SYMBOL



ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
5302L-TM3-T	5302G-TM3-T	TO-251	B	C	E	Tube

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

<p>5302L-TM3-T</p>	<p>(1) T: Tube</p> <p>(2) TM3: TO-251</p> <p>(3) G: Halogen Free, L: Lead Free</p>
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■ ABSOLUTE MAXIMUM RATING (Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V _{CB0}	800	V
Collector-Emitter Voltage	V _{CEO}	400	V
Emitter-Base Voltage	V _{EBO}	10	V
Collector Current	I _C	2	A
Collector Peak Current (tp<5ms)	I _{CM}	4	A
Base Current	I _B	1	A
Base Peak Current (tp<5ms)	I _{BM}	2	A
Power Dissipation (T _C ≤25°C)	P _D	25	W
Junction Temperature	T _J	+150	°C
Storage Temperature	T _{STG}	-65 ~ +150	°C

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.

■ THERMAL DATA

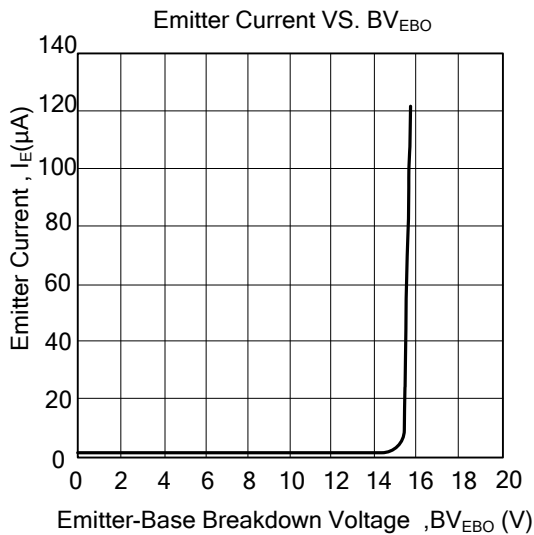
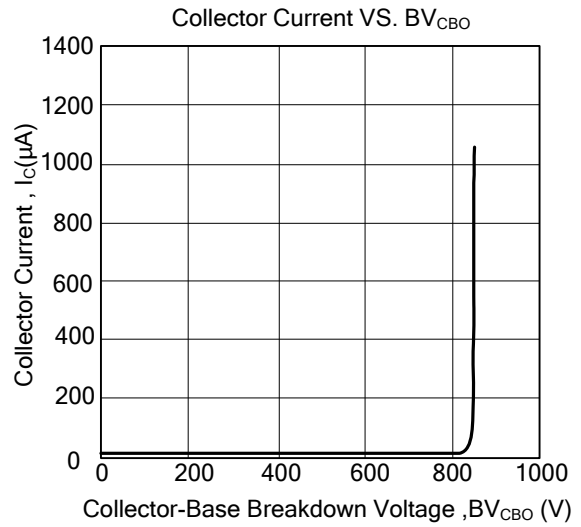
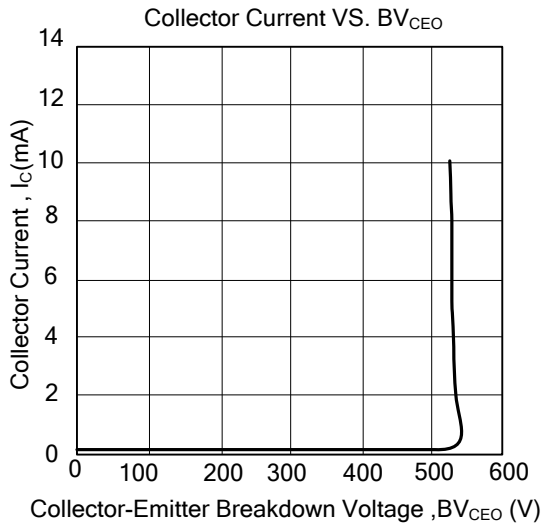
PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ _{JA}	100	°C/W
Junction to Case	θ _{JC}	5	°C/W

■ ELECTRICAL CHARACTERISTICS (Ta = 25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=10mA, I_E=0$ (Note)	400			V
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=1mA, I_B=0$	800			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=1mA, I_C=0$	10			V
Collector Cutoff Current	I_{CBO}	$V_{CB}=800V, I_E=0$			1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=9V, I_C=0$			1	μA
ON CHARACTERISTICS						
DC Current Gain	h_{FE1}	$V_{CE}=5V, I_C=10mA$	10			
	h_{FE2}	$V_{CE}=5V, I_C=400mA$	10		30	
	h_{FE3}	$V_{CE}=5V, I_C=1A$	5			
Collector-Emitter Saturation Voltage	$V_{CE(SAT1)}$	$I_C=0.5A, I_B=0.1A$ (Note)			0.5	V
	$V_{CE(SAT2)}$	$I_C=1A, I_B=0.25A$ (Note)		1.1	1.5	
Base-Emitter Saturation Voltage	$V_{BE(SAT1)}$	$I_C=0.5A, I_B=0.1A$ (Note)			1.1	V
	$V_{BE(SAT2)}$	$I_C=1A, I_B=0.25A$ (Note)			1.2	
SWITCHING CHARACTERISTICS						
Turn On Time	t_{ON}	$V_{CC}=250V, I_C=1A,$		0.15	0.3	μS
Fall Time	t_F	$I_{B1}=I_{B2}=0.2A, t_p=25\mu S$		0.2	0.4	μS
Storage Time	t_{STG}	Duty Cycle<1%		0.5	0.9	μS

Note: Pulsed duration = 300 μ S, Duty cycle \leq 2%

■ TYPICAL CHARACTERISTICS



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