



T2096

NPN SILICON TRANSISTOR

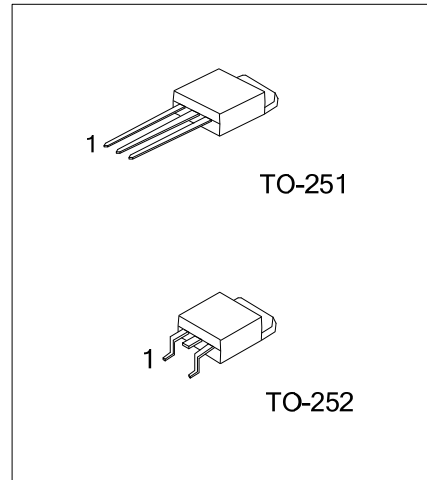
HIGH VOLTAGE TRANSISTOR

DESCRIPTION

The T2096 is a NPN Silicon Planar Transistors in TO-251 package. It is intended for high voltage, switching power supply and industrial applications.

FEATURES

- * Pb-free package is available
- * Collector-Emitter voltage: $V_{CEO} = 400V$
- * Pulse collector current to 4A



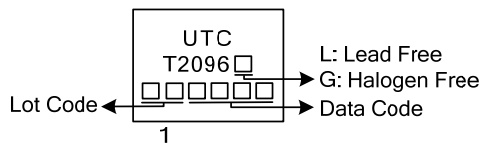
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
T2096L-TM3-T	T2096G-TM3-T	TO-251	G	D	S	Tube
T2096L-TN3-R	T2096G-TN3-R	TO-252	G	D	S	Tape Reel

Note: Pin Assignment: G: Gate D: Drain S: Source

<p>T2096L-TM3-T</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</p>	<p>(1) T: Tube, R: Tape Reel</p> <p>(2) TM3: TO-251, TN3: TO-252</p> <p>(3) L: Lead Free, G: Halogen Free and Lead Free</p>
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MARKING



■ ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	800	V
Collector-Emitter Voltage	V_{CES}	800	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	8	V
Base Current	I_B	1	A
DC Collector Current	I_C	2	A
Pulse Collector Current (Note 2)	I_{CP}	4	A
Collector Dissipation	P_C	$T_A=25^\circ\text{C}$	1
		$T_C=25^\circ\text{C}$	15
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^\circ\text{C}$

Note: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.

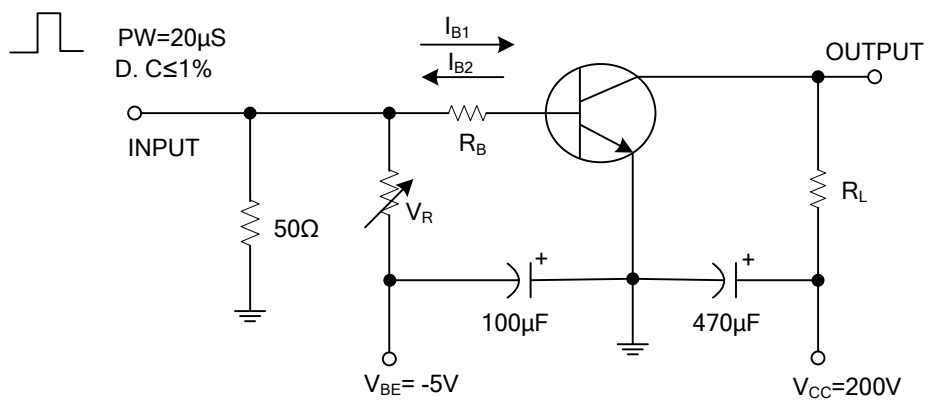
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

2. Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 10\%$

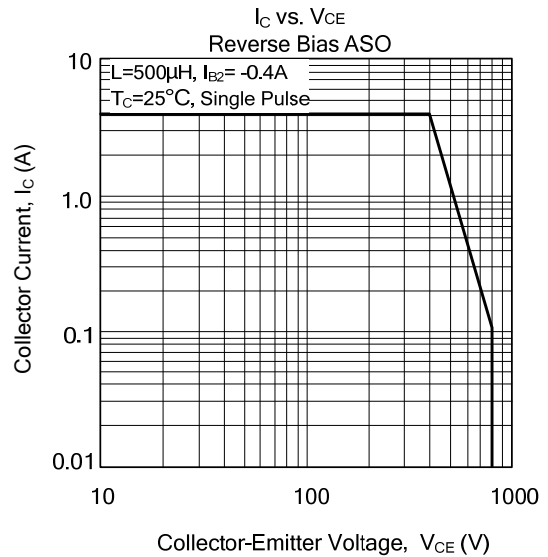
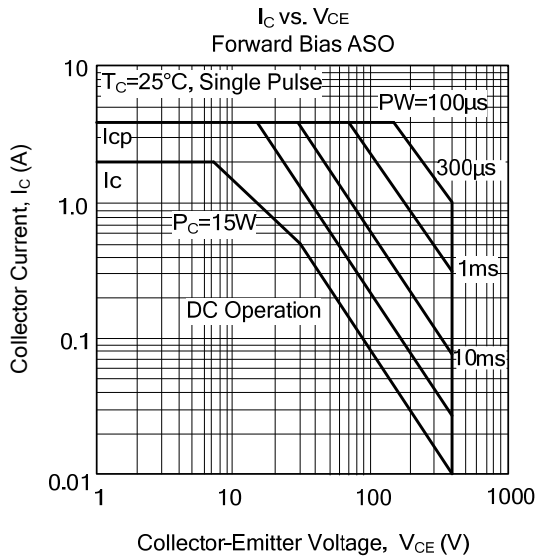
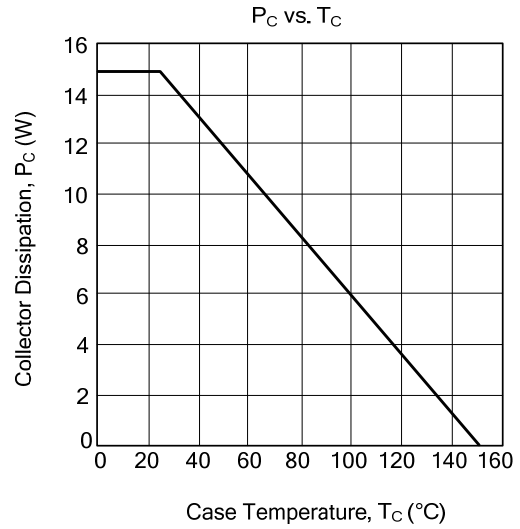
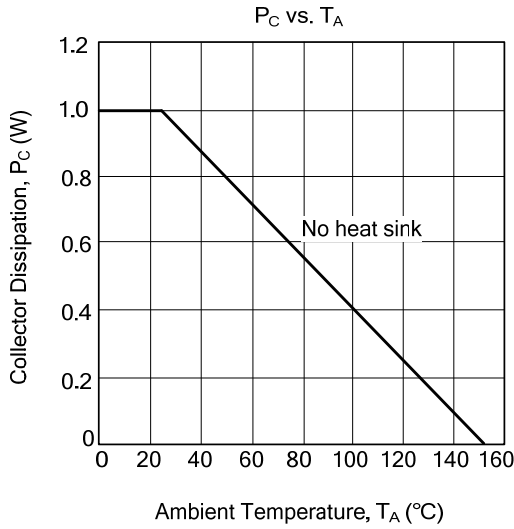
■ ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = 1\text{mA}$, $I_E = 0$	800			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = 5\text{mA}$, $R_{BE} = \infty$	400			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = 1\text{mA}$, $I_C = 0$	8			V
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = 1\text{A}$, $I_B = 0.2\text{A}$			0.8	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C = 1\text{A}$, $I_B = 0.2\text{A}$			1.5	V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 400\text{V}$, $I_E = 0$			10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5\text{V}$, $I_C = 0$			10	μA
DC Current Gain	h_{FE1}	$V_{CE} = 5\text{V}$, $I_C = 1\text{mA}$	45			
	h_{FE2}	$V_{CE} = 5\text{V}$, $I_C = 0.2\text{A}$	120		180	
Current Gain-Bandwidth Product	f_T	$V_{CE} = 10\text{V}$, $I_C = 0.2\text{A}$		20		MHz
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}$, $f = 1\text{MHz}$		20		pF
Turn-on Time	t_{ON}	$I_C = 1.0\text{A}$, $I_{B1} = 0.05\text{A}$			0.5	μs
Storage Time	t_{STG}	$I_{B2} = -0.5\text{A}$, $R_L = 200\Omega$			2.5	μs
Fall Time	t_F	$V_{CC} = 200\text{V}$			0.3	μs

■ SWITCHING TIME TEST CIRCUIT



■ TYPICAL CHARACTERISTICS



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