



## UP1452

Preliminary

NPN SILICON TRANSISTOR

### HIGH CURRENT LOW $V_{CE(SAT)}$ TRANSISTOR

#### DESCRIPTION

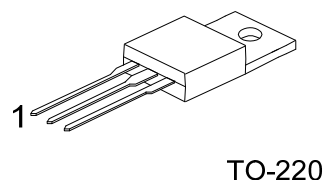
The UTC **UP1452** is specially designed to have high current and low  $V_{CE(SAT)}$  to suit for power amplifier application and power switching application.

#### FEATURES

\*Low Collector-Emitter Saturation Voltage:

$$V_{CE(SAT)} \leq -0.4V \text{ (Max.) @ } -6.0A$$

\*  $BV_{CEO}$  is -80V minimum



TO-220

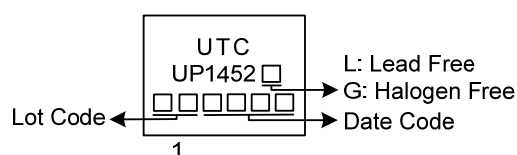
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UP1452L-TA3-T	UP1452G-TA3-T	TO-220	B	C	E	Tube

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

UP1452G-TA3-T	(1) Packing Type (2) Package Type (3) Green Package	(1) R: Tape Reel (2) TA3: TO-220 (3) G: Halogen Free and Lead Free, L: Lead Free
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#### MARKING



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

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	$V_{CBO}$	-80	V
Collector-Emitter Voltage	$V_{CEO}$	-80	V
Emitter-Base Voltage	$V_{EBO}$	-6	V
Continuous Collector Current	DC	$I_C$	-12
	Pulse	$I_{CP}$	-15
Continuous Base Current	$I_B$	-1	A
Collector Power Dissipation	$P_C$	2	W
Junction Temperature	$T_J$	+150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 ~ +150	$^{\circ}\text{C}$

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.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=-50\text{mA}$ , $I_B=0$	-80			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=-80\text{V}$ , $I_E=0$			-5	$\mu\text{A}$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=-6.0\text{V}$ , $I_C=0$			-5	$\mu\text{A}$
DC Current Gain	$h_{FE1}$	$V_{CE}=-1.0\text{V}$ , $I_C=-1.0\text{A}$	120		240	
	$h_{FE2}$	$V_{CE}=-1.0\text{V}$ , $I_C=-6.0\text{A}$	40			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_B=-0.3\text{A}$ , $I_C=-6.0\text{A}$		-0.14	-0.4	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_B=-0.3\text{A}$ , $I_C=-6.0\text{A}$		-0.9	-1.2	V
Base-Emitter on voltage	$V_{BEON}$	$V_{CE}=-1.0\text{V}$ , $I_C=-2.0\text{A}$			-1.1	V
Transition Frequency	$f_T$	$V_{CE}=-5.0\text{V}$ , $I_C=-1.0\text{A}$		50		MHz

■ TEST CIRCUIT

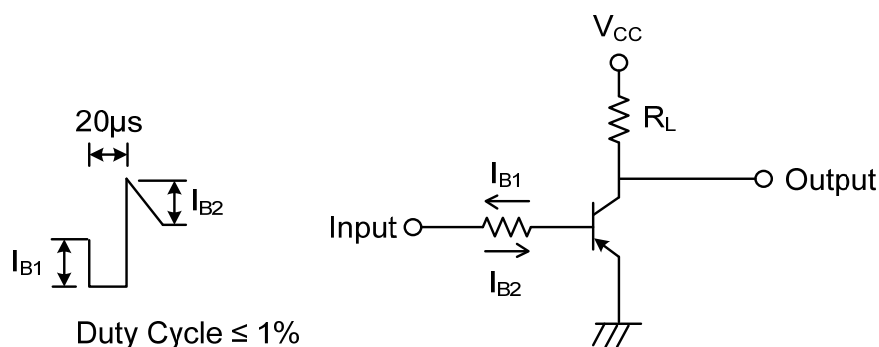


Figure 1. Switching Time Test Circuit

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