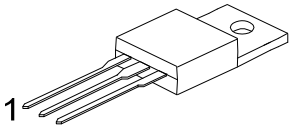
UP1452 **Preliminary** ***NPN SILICON TRANSISTOR***

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



TO-220

■ 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 (Max.) @ -6.0A
* BV_{CEO} is -80V minimum

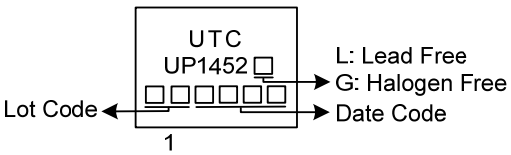
■ ORDERING INFORMATION

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

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°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	A
	Pulse	I_{CP}	-15	A
Continuous Base Current		I_B	-1	A
Collector Power Dissipation		P_C	2	W
Junction Temperature		T_J	+150	°C
Storage Temperature		T_{STG}	-55 ~ +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.

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

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

■ TEST CIRCUIT

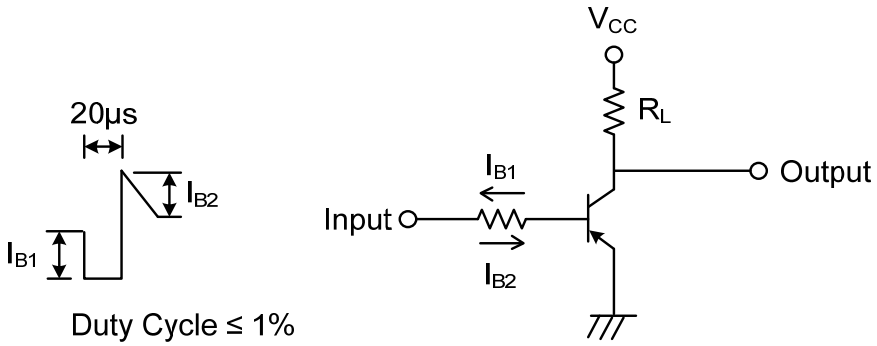


Figure 1.Switching Time Test Circuit