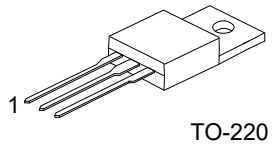
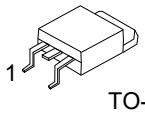
TIP142

Advance ***NPN SILICON TRANSISTOR***

NPN EPITAXIAL TRANSISTOR



TO-220



TO-252

■ DESCRIPTION

The UTC **TIP142** is designed for using in general purpose amplifier and switching applications.

■ FEATURES

* Low $V_{CE(SAT)}$
* High Current Gain
* Complementary to TIP107

■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
TIP142L-TA3-T	TIP142G-TA3-T	TO-220	B	C	E	Tube
TIP142L-TN3-R	TIP142G-TN3-R	TO-252	B	C	E	Tape Reel

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

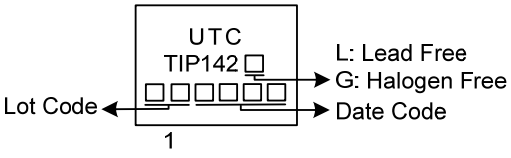
TIP102G-TA3-T

(1)Packing Type — (1) T: Tube, R: Tape Reel

(2)Package Type — (2) TA3: TO-220, TN3: TO-252

(3)Green Package — (3) G: Halogen Free and Lead Free L: Lead Free

■ MARKING



■ ABSOLUTE MAXIMUM RATING (T_C=25°C, unless otherwise specified.)

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		V_{CBO}	100	V
Collector-Emitter Voltage		V_{CEO}	100	V
Emitter-Base Voltage		V_{EBO}	5	V
Collector Current	DC	I_C	10	A
	Pulse	I_{CP}	15	A
Base Current	DC	I_B	0.5	A
Collector Power Dissipation	TO-220	P_C	80	W
	TO-252		41	W
Junction Temperature		T_J	+150	°C
Storage Temperature		T_{STG}	-65 ~ +150	°C

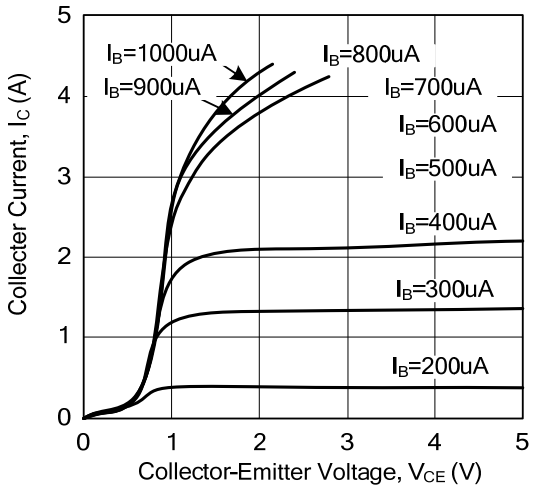
Note Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

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

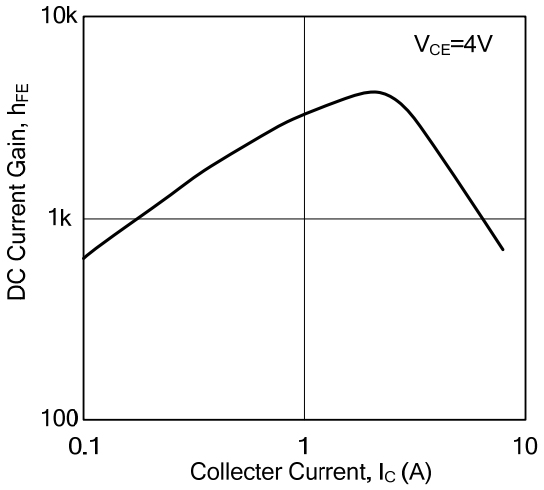
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Emitter Sustaining Voltage	$V_{CEO(SUS)}$	I_C=30mA, I_B=0A	100			V
Collector-Base Cut-Off Current	I_{CBO}	V_{CB}=100V, I_E=0A			1	mA
Collector-Emitter Cut-Off Current	I_{CEO}	V_{CE}=50V, I_B=0A			2	mA
Emitter-Base Cut-Off Current	I_{EBO}	V_{EB}=5V, I_C=0A			2	mA
ON CHARACTERISTICS						
DC Current Gain	h_{FE1}	V_{CE}=4V, I_C=5A	1000			
	h_{FE2}	V_{CE}=4V, I_C=10A	500			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C=5A, I_B=10mA			2	V
		I_C=10A, I_B=40mA			3	V
Base-Emitter ON Voltage	$V_{BE(ON)}$	V_{CE}=4V, I_C=10A			3	V

■ TYPICAL CHARACTERISTICS

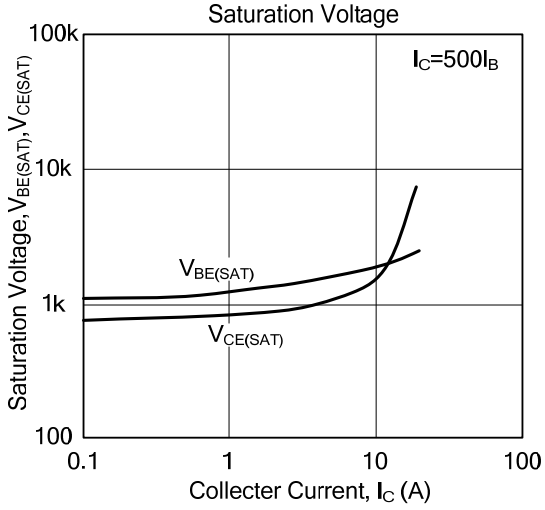
Staic Characteristics



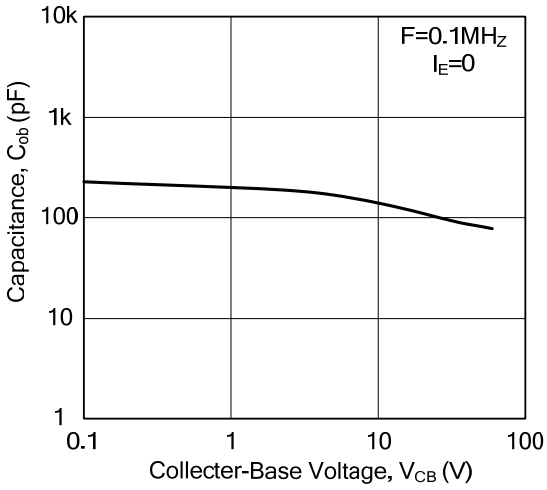
DC Current Gain



Base-Emitter vs Collector-Emitter Saturation Voltage



Collector Output Capacitance



Safe Operating Area