



# TIP41C-Q

## NPN PLANAR TRANSISTOR

### NPN EXPITAXIAL PLANAR TRANSISTOR

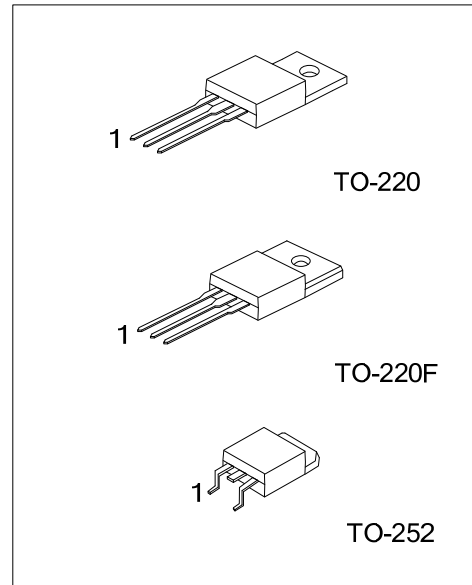
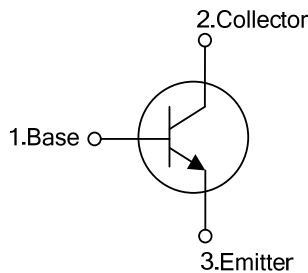
■ DESCRIPTION

The UTC **TIP41C-Q** is a NPN expitaxial planar transistor, designed for using in general purpose amplifier and switching applications.

■ FEATURE

\* Complement to TIP42C

■ SYMBOL



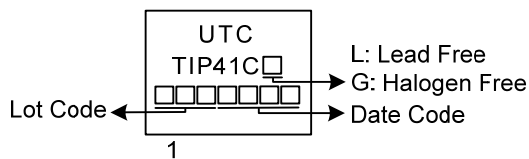
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
TIP41CL-Q-x-TA3-T	TIP41CG-Q-x-TA3-T	TO-220	B	C	E	Tube
TIP41CL-Q-x-TF3-T	TIP41CG-Q-x-TF3-T	TO-220F	B	C	E	Tube

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

<p>TIP41CG-Q-x-TA3-T</p>	<p>(1) T: Tube                  (2) TA3: TO-220, TF3: TO-220F                  (3) x: refer to Classification of <math>h_{FE2}</math>                  (4) G: Halogen Free and Lead Free, L: Lead Free</p>
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■ MARKING



# TIP41C-Q

## NPN PLANAR TRANSISTOR

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

PARAMETER		SYMBOL	RATING	UNIT
Collector Base Voltage		$V_{CBO}$	100	V
Collector to Emitter Voltage		$V_{CEO}$	100	V
Emitter-Base Voltage		$V_{EBO}$	5	V
Collector Current	DC	$I_C$	6	A
	Pulse		10	A
Base Current		$I_B$	2	A
Collector Dissipation	$T_C=25^\circ\text{C}$	TO-220	65	W
		TO-220F	22	
	$T_A=25^\circ\text{C}$	TO-220	2	W
		TO-220F	0.7	
Junction Temperature		$T_J$	150	$^\circ\text{C}$
Storage Temperature		$T_{STG}$	-65 ~ +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 ( $T_C=25^\circ\text{C}$ , unless otherwise specified)

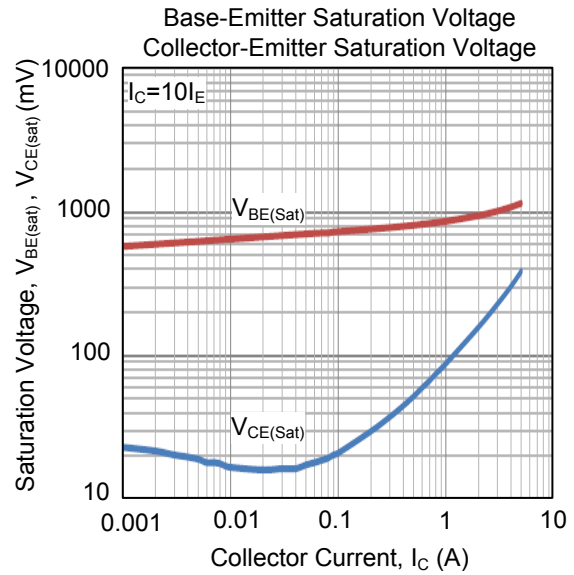
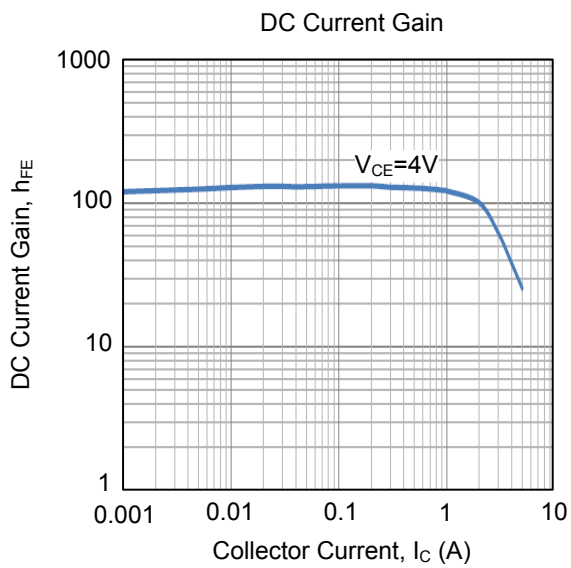
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Emitter Base Breakdown Voltage	$BV_{EBO}$	$I_E=100\mu\text{A}$ , $I_C=0$	5			V
Collector Base Breakdown Voltage	$BV_{CBO}$	$I_C=100\mu\text{A}$ , $I_E=0$	100			V
Collector Emitter Sustaining Voltage (Note)	$BV_{CEO}$	$I_C=30\text{mA}$ , $I_B=0$	100			V
Collector Cutoff Current	$I_{CEO}$	$V_{CE}=60\text{V}$ , $I_B=0$			0.7	mA
Collector Cutoff Current	$I_{CES}$	$V_{CE}=100\text{V}$ , $V_{EB}=0$			400	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=5\text{V}$ , $I_C=0$			1	mA
Collector-Emitter Saturation Voltage (Note)	$V_{CE(SAT)}$	$I_C=6\text{A}$ , $I_B=600\text{mA}$			1.5	V
Base-Emitter On Voltage (Note)	$V_{BE(ON)}$	$I_C=6\text{A}$ , $V_{CE}=4\text{V}$			2.0	V
DC Current Gain (Note)	$h_{FE1}$	$I_C=300\text{mA}$ , $V_{CE}=4\text{V}$	30			
	$h_{FE2}$	$I_C=3\text{A}$ , $V_{CE}=4\text{V}$	15		75	
Current Gain Bandwidth Product	$f_T$	$V_{CE}=10\text{V}$ , $I_C=500\text{mA}$ , $f=1\text{MHz}$	3			MHz

Note: Pulse Test:  $P_W \leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$

### ■ CLASSIFICATION OF $h_{FE2}$

RANK	A	B	C
RANGE	15~30	28~48	45~75

### TYPICAL CHARACTERISTICS



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