



TIP122-Q

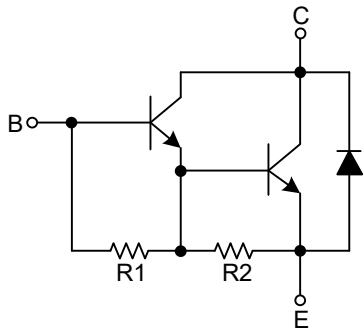
NPN SILICON TRANSISTOR

NPN EPITAXIAL TRANSISTOR

■ DESCRIPTION

The UTC **TIP122-Q** is a NPN epitaxial transistor, designed for use in general purpose amplifier low-speed switching applications.

■ EQUIVALENT TEST



($R_1 \approx 15k\Omega$, $R_2 \approx 0.05k\Omega$)

■ ORDERING INFORMATION

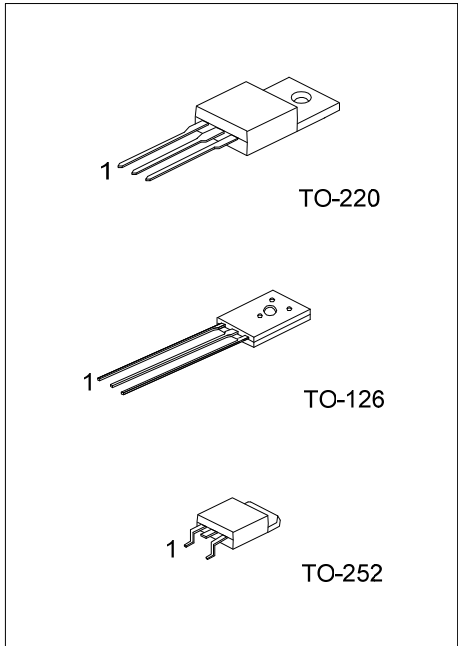
Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
TIP122L-Q-TA3-T	TIP122G-Q-TA3-T	TO-220	B	C	E	Tube
TIP122L-Q-TN3-R	TIP122G-Q-TN3-R	TO-252	B	C	E	Tape Reel
TIP122L-Q-T60-T	TIP122G-Q-T60-T	TO-126	B	C	E	Tube
TIP122L-Q-T60-K	TIP122G-Q-T60-K	TO-126	B	C	E	Bulk

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

<p>TIP122G-Q-TA3-T</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</p>	<p>(1) T: Tube, R: Tape Reel, K: Bulk</p> <p>(2) TA3: TO-220, TN3: TO-252, T60: TO-126</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
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■ MARKING

TO-220 / TO-252	TO-126
<p>UTC TIP122 □ □□□□□□□□</p> <p>Lot Code ←</p> <p>→ L: Lead Free → G: Halogen Free → Date Code</p> <p>1</p>	<p>UTC □□□□ □ TIP122 □</p> <p>Lot Code ←</p> <p>→ Date Code → L: Lead Free → G: Halogen Free</p> <p>1</p>



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

PARAMETER		SYMBOL	RATINGS	UNIT
Collector to Base Voltage		V_{CBO}	100	V
Collector to Emitter Voltage		V_{CEO}	100	V
Emitter to Base Voltage		V_{EBO}	5	V
IC Collector Current		I_C	5	A
Power Dissipation ($T_C=25^\circ\text{C}$)	TO-220	P_D	65	W
	TO-252		38	W
	TO-126		10	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.

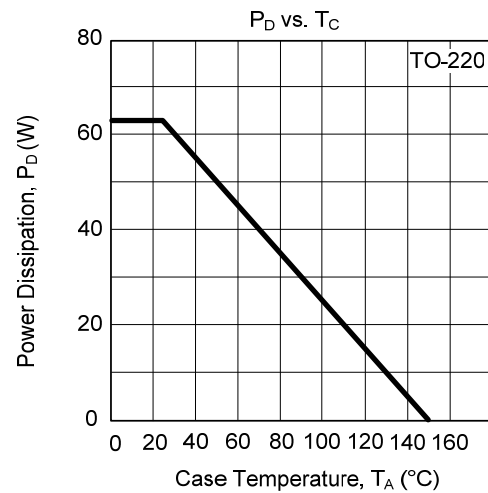
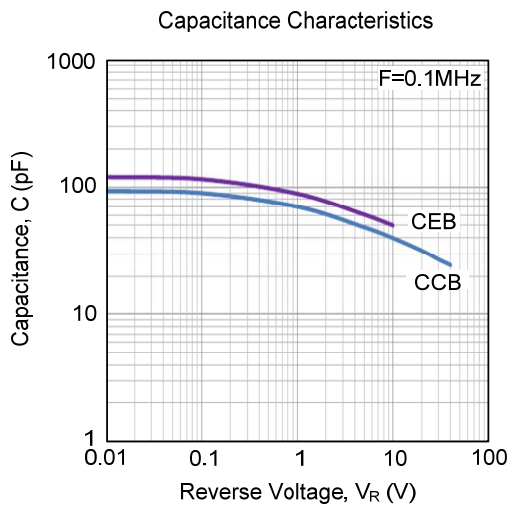
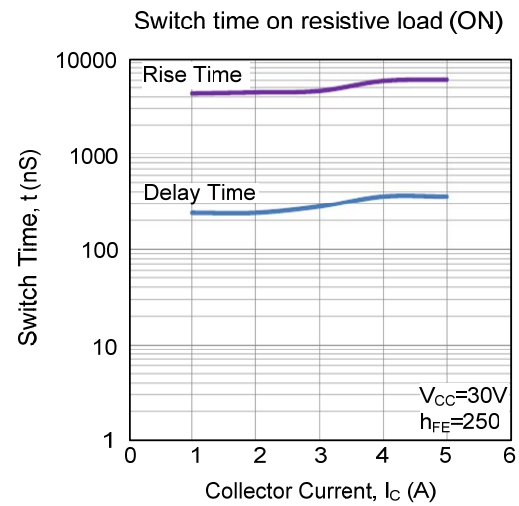
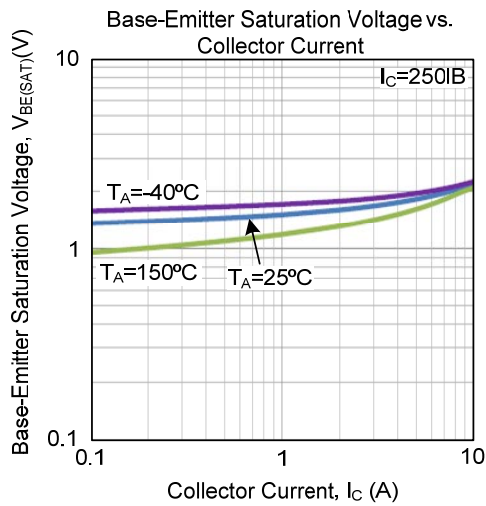
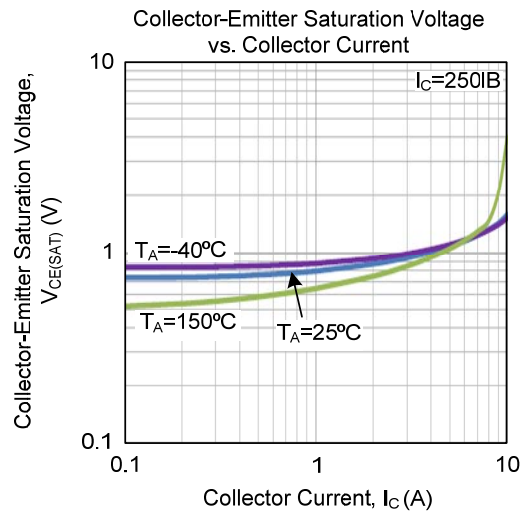
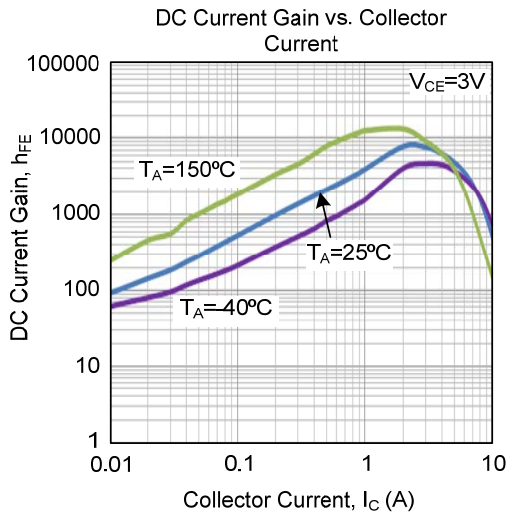
■ THERMAL DATA

PARAMETER		SYMBOL	RATING	UNIT
Junction to Ambient	TO-220	θ_{JA}	62.5	$^\circ\text{C/W}$
	TO-252		80	$^\circ\text{C/W}$
	TO-126		89	$^\circ\text{C/W}$
Junction to Case	TO-220	θ_{JC}	1.92	$^\circ\text{C/W}$
	TO-252		3.29	$^\circ\text{C/W}$
	TO-126		12.5	$^\circ\text{C/W}$

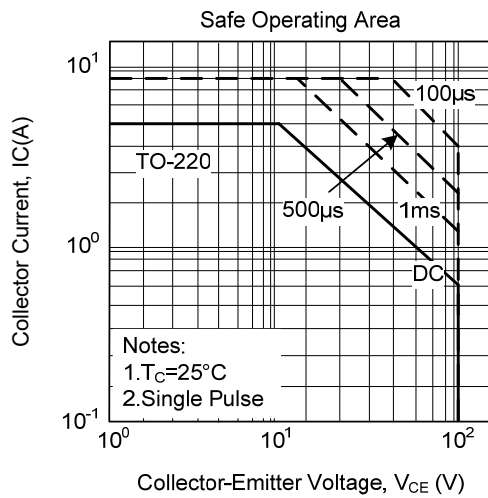
■ ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=100\text{mA}$	100			V
Collector-Emitter Saturation Voltage	$V_{CE(SAT)1}$	$I_C=3\text{A}, I_B=12\text{mA}$			2	V
Collector-Emitter Saturation Voltage	$V_{CE(SAT)2}$	$I_C=5\text{A}, I_B=20\text{mA}$			4	V
Base-Emitter Saturation Voltage	$V_{BE(ON)}$	$V_{CE}=3\text{V}, I_C=3\text{A}$			2.5	V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=100\text{V}$			200	μA
Collector-Cut-Off Current	I_{CEO}	$V_{CE}=50\text{V}$			500	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=5\text{V}$			2	mA
DC Current Gain	h_{FE}	$I_C=500\text{mA}, V_{CE}=3\text{V}$	1000			
		$I_C=3\text{A}, V_{CE}=3\text{V}$	1000			

TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS



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