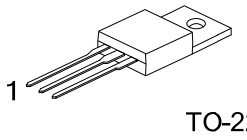
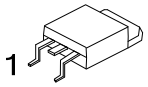
TIP102

NPN SILICON TRANSISTOR

NPN EPITAXIAL TRANSISTOR



TO-220



TO-252

■ DESCRIPTION

The UTC **TIP102** 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	
TIP102L-TA3-T	TIP102G-TA3-T	TO-220	B	C	E	Tube
TIP102L-TN3-R	TIP102G-TN3-R	TO-252	B	C	E	Tape Reel

TIP102L-TA3-T

(1)Packing Type

(2)Package Type

(3)Lead Free

(1) T: Tube, R: Tape Reel

(2) TN3: TO-252, TA3: TO-220

(3) G: Halogen Free, L: Lead Free

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■ ABSOLUTE MAXIMUM RATING (T_C=25°C)

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	8	A
	Pulse	I_{CP}	15	A
Base Current	DC	I_B	1	A
Collector Power Dissipation	TO-220	P_C	80	W
	TO-252		41	
Junction Temperature		T_J	150	°C
Storage Temperature		T_{STG}	-65~+150	°C

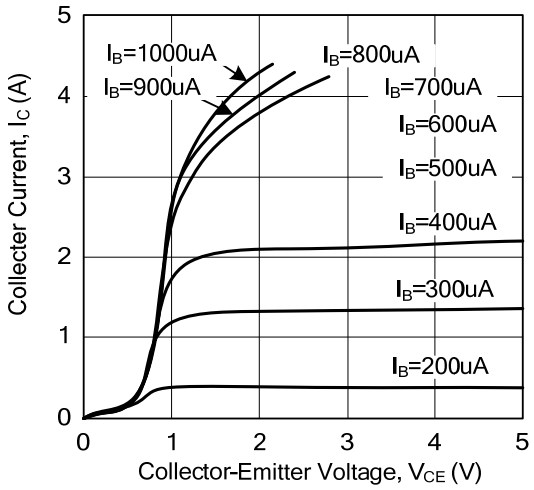
Note Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

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

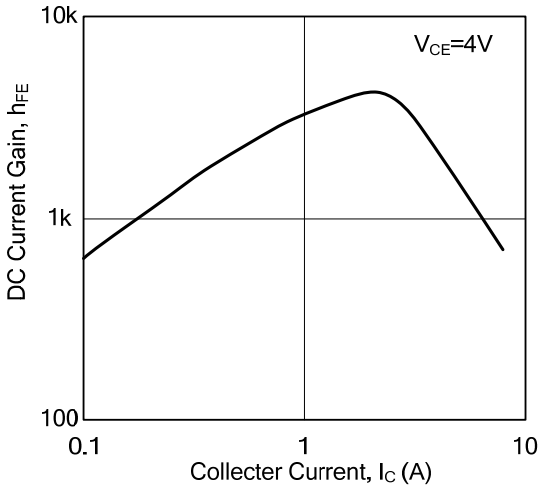
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Emitter Sustaining Voltage	$V_{CEO(SUS)}$	I_C=30mA, I_B=0A	100			V
Collector-Base Cut-Off Current	I_{CBO}	V_{CB}=100V, I_E=0A			50	μA
Collector-Emitter Cut-Off Current	I_{CEO}	V_{CE}=50V, I_B=0A			50	μA
Emitter-Base Cut-Off Current	I_{EBO}	V_{EB}=5V, I_C=0A			2	mA
ON CHARACTERISTICS						
DC Current Gain	h_{FE1}	V_{CE}=4V, I_C=3A	1000		20000	
	h_{FE2}	V_{CE}=4V, I_C=8A	200			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C=3A, I_B=6mA			2	V
		I_C=8A, I_B=80mA			2.5	V
Base-Emitter ON Voltage	$V_{BE(ON)}$	V_{CE}=4V, I_C=8A			2.8	V
SMALL-SIGNAL CHARACTERISTICS						
Output Capacitance	C_{OB}	V_{CB}=10V, I_E=0A, f=0.1MHZ			300	pF

■ TYPICAL CHARACTERISTICS

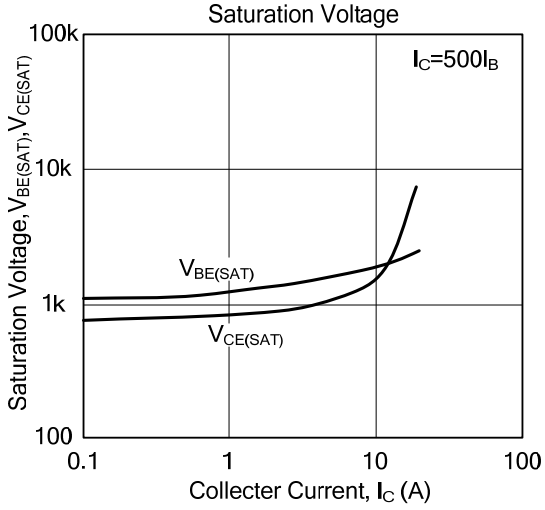
Staic Characteristics



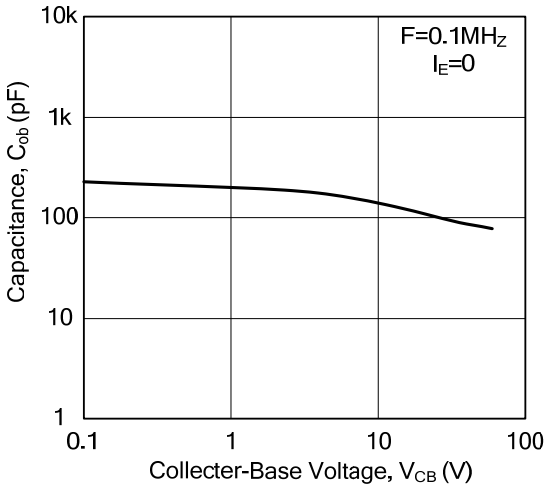
DC Current Gain



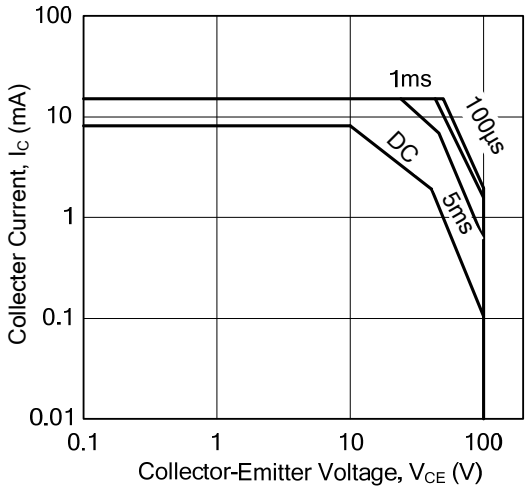
Base-Emitter vs Collector-Emitter Saturation Voltage



Collector Output Capacitance



Safe Operating Area



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