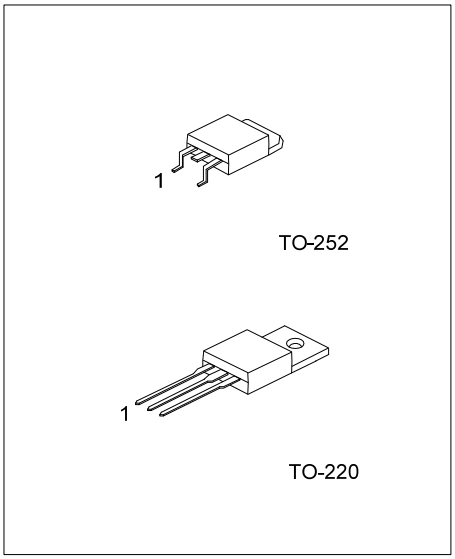
TIP107

PNP SILICON TRANSISTOR

PNP EPITAXIAL TRANSISTOR



Lead-free: TIP107L
Halogen-free: TIP107G

■ DESCRIPTION

The UTC **TIP107** is designed for using in general purpose amplifier and switching applications.

■ FEATURES

* Low $V_{CE(SAT)}$
* High Current Gain
* Complementary to TIP102

■ ORDERING INFORMATION

Ordering Number			Package	Pin Assignment			Packing
Normal	Lead Free	Halogen Free		1	2	3	
TIP107-TA3-T	TIP107L-TA3-T	TIP107G-TA3-T	TO-220	B	C	E	Tube
TIP107-TN3-R	TIP107L-TN3-R	TIP107G-TN3-R	TO-252	B	C	E	Tape Reel

TIP107L-TA3-T
(1)Packing Type
(2)Package Type
(3)Lead Plating

(1) R: Tape Reel, T: Tube
(2) TA3: TO-220, TN3: TO-252
(3) G: Halogen Free, L: Lead Free, Blank: Pb/Sn

■ ABSOLUTE MAXIMUM RATING (T_C=25°C)

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		V_{CBO}	-100	V
Collector-Emitter Voltage		V_{CES}	-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		P_C	80	W
Junction Temperature		T_J	150	°C
Storage Temperature		T_{STG}	-65~+150	°C

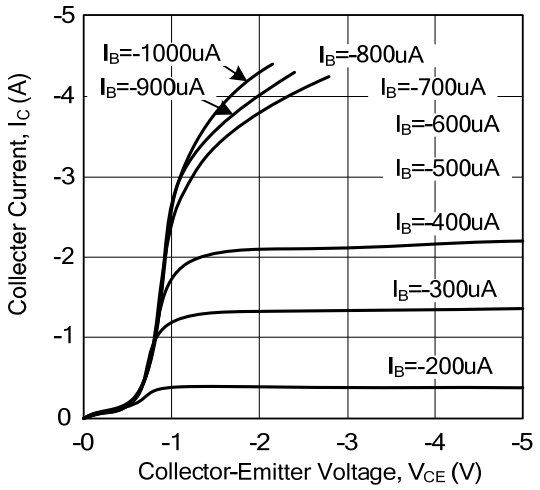
Note Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

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

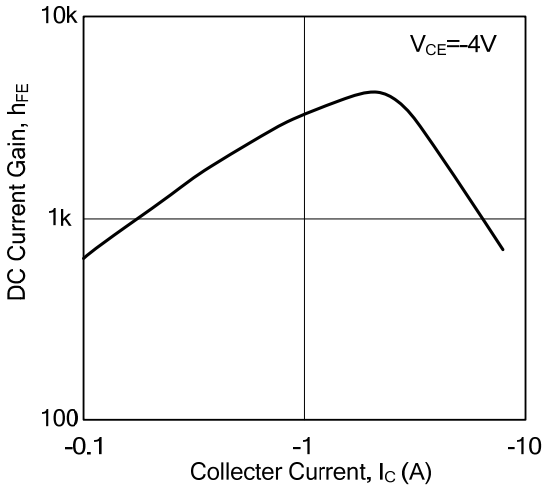
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Emitter Sustaining Voltage	$V_{CEO(SUS)}$	I_C=-30mA, I_B=0A	-100			V
Collector-Base Cut-Off Current	I_{CBO}	V_{CB}=-100V, I_E=0A			-50	μA
Collector-Emitter Cut-Off Current	I_{CEO}	V_{CE}=-50V, I_B=0A			50	μA
Emitter-Base Cut-Off Current	I_{EBO}	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

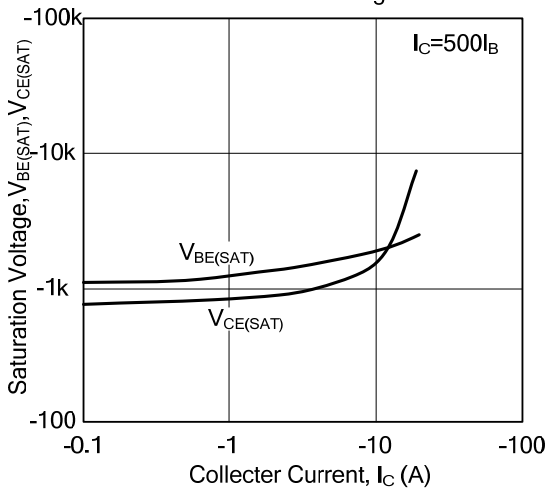
Staic Characteristics



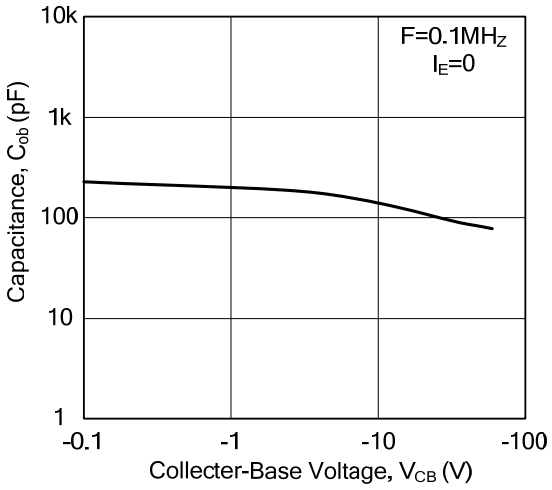
DC Current Gain



Base-Emitter vs Collector-Emitter Saturation Voltage



Collector Output Capacitance



Safe Operating Area