



TIP112

NPN SILICON TRANSISTOR

NPN EPITAXIAL SILICON DARLINGTON TRANSISTOR

DESCRIPTION

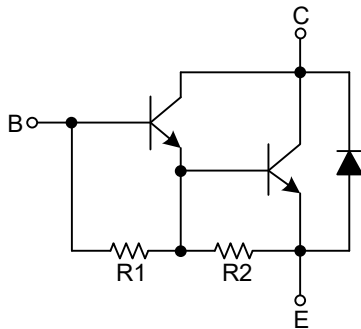
The UTC **TIP112** is designed for such applications as: DC/DC converters supply line switching, battery charger, LCD backlighting, peripheral drivers, Driver in low supply voltage applications (e.g. lamps and LEDs) and inductive load driver (e.g. relays, buzzers and motors).

FEATURES

* High DC current gain : $h_{FE} = 1000$ @ $V_{CE} = 4.0V$, $I_C = 1.0A$ (Min.)

* Low collector-emitter saturation voltage

EQUIVALENT TEST ($R_1 \approx 10k\Omega$, $R_2 \approx 0.6k\Omega$)



ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
TIP112L-AA3-R	TIP112G-AA3-R	SOT-223	B	C	E	Tape Reel
TIP112L-TA3-T	TIP112G-TA3-T	TO-220	B	C	E	Tube
TIP112L-TF3-T	TIP112G-TF3-T	TO-220F	B	C	E	Tube
TIP112L-TN3-R	TIP112G-TN3-R	TO-252	B	C	E	Tape Reel
TIP112L-T60-K	TIP112G-T60-K	TO-126	E	C	B	Bulk
TIP112L-T6S-K	TIP112G-T6S-K	TO-126S	E	C	B	Bulk

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

TIP112G-AA3-R (1) Packing Type (2) Package Type (3) Green Package		(1) R: Tape Reel, T: Tube, K: Bulk (2) AA3: SOT-223, TA3: TO-220, TF3: TO-220F, TN3: TO-252, T60: TO-126, T6S: TO-126S (3) G: Halogen Free and Lead Free, L: Lead Free
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MARKING

SOT-223	TO-220 / TO-220F / TO-252
TIP112 1 L: Lead Free G: Halogen Free Date Code	UTC TIP112 1 Lot Code L: Lead Free G: Halogen Free Date Code
TO-126 / TO-126S	-
TIP112 1 L: Lead Free G: Halogen Free Date Code	-

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

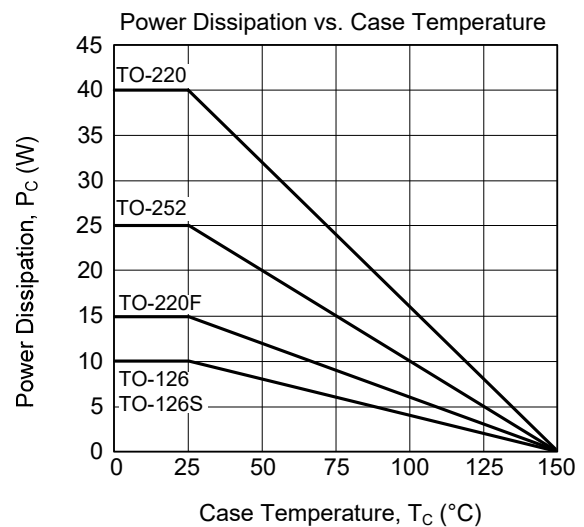
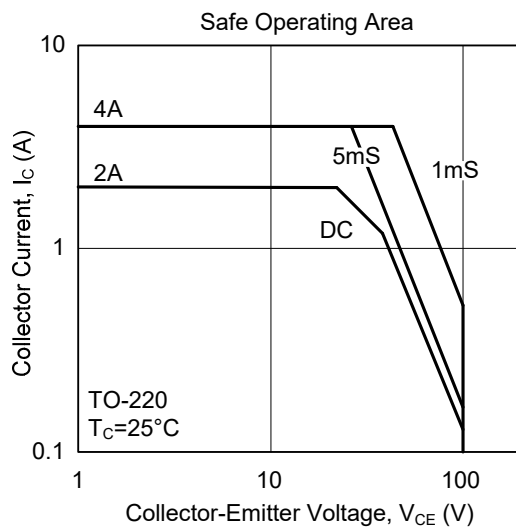
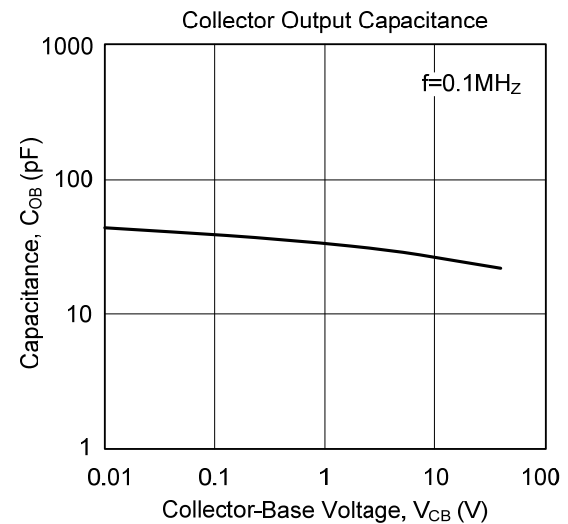
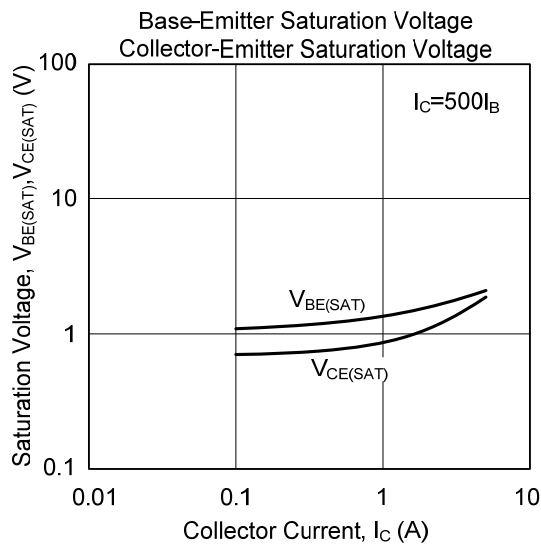
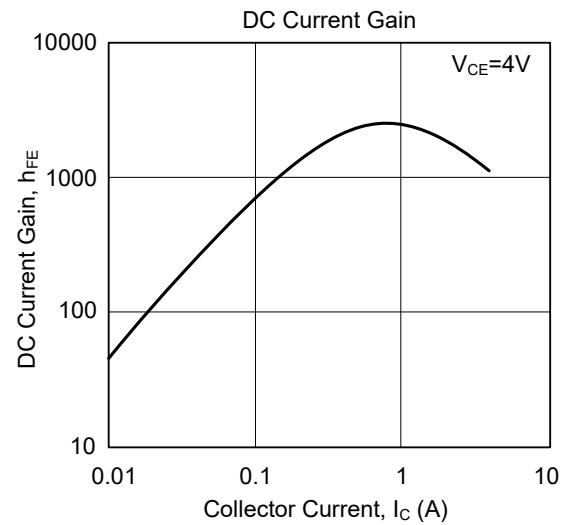
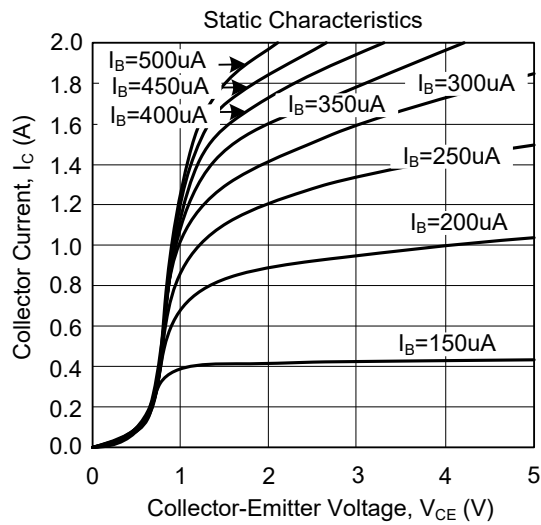
PARAMETER		SYMBOL	RATINGS	UNIT
Collector to Base Voltage		V_{CBO}	100	V
Collector to Emitter Voltage		V_{CEO}	100	V
Emitter to Base Voltage		V_{EBO}	5	V
Collector Current	DC	I_C	2	A
	Peak	I_{CM}	4	A
Base Current (DC)		I_B	50	mA
Collector Dissipation	SOT-223	P_C	6	W
	TO-220		40	W
	TO-220F		15	W
	TO-252		25	W
	TO-126/TO-126S		10	W
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
Collector-Emitter Breakdown Voltage	$V_{CEO(SUS)}$	$I_C=30\text{mA}$, $I_B=0\text{A}$	100			V
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=2.0\text{A}$, $I_B=8\text{mA}$			2.5	V
Base-Emitter Turn-On Voltage	$V_{BE(ON)}$	$V_{CE}=4.0\text{V}$, $I_C=2.0\text{A}$			2.8	V
Collector-Base Cut-Off Current	I_{CBO}	$V_{CB}=100\text{V}$, $I_E=0\text{A}$			1	mA
Collector-Emitter Cut-Off Current	I_{CEO}	$V_{CE}=50\text{V}$, $V_B=0\text{A}$			2	mA
Emitter-Base Cut-Off Current	I_{EBO}	$V_{EB}=5.0\text{V}$, $I_C=0\text{A}$			2	mA
DC Current Gain	h_{FE}	$V_{CE}=4.0\text{V}$, $I_C=1.0\text{A}$	1000			
		$V_{CE}=4.0\text{V}$, $I_C=2.0\text{A}$	500			
Collector Capacitance	C_{OB}	$V_{CB}=10\text{V}$, $I_E=0\text{A}$, $f=0.1\text{MHz}$			100	pF

■ TYPICAL CHARACTERISTICS



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