

UTC X1049A NPN EPITAXIAL SILICON TRANSISTOR

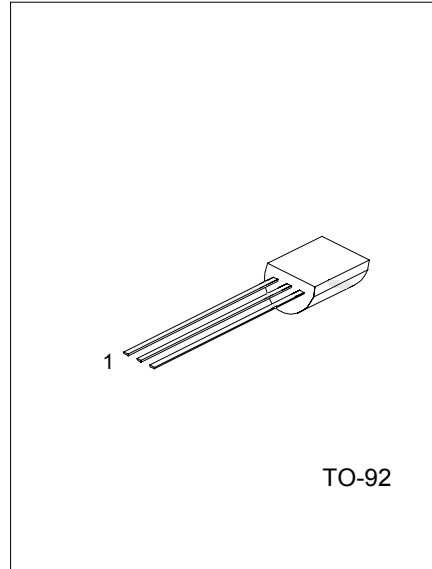
HIGH GAIN TRANSISTOR

FEATURES

- * $V_{CEV} = 80V$
- *High Gain
- *20 Amps pulse current

APPLICATIONS

- *LCD Backlight converters
- *Emergency lighting
- *DC-DC converters



1:EMITTER 2:BASE 3:COLLECTOR

ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}C$)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CB0}	80	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter-Base Voltage	V_{EB0}	5	V
Collector Current	I_c	DC	4
		Pulse	20
Base Current	I_B	500	mA
Power Dissipation	P_D	1	W
Junction Temperature	T_j	-55 ~ +200	$^{\circ}C$
Storage Temperature	T_{stg}	-55 ~ +200	$^{\circ}C$

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}C$ unless otherwise specified).

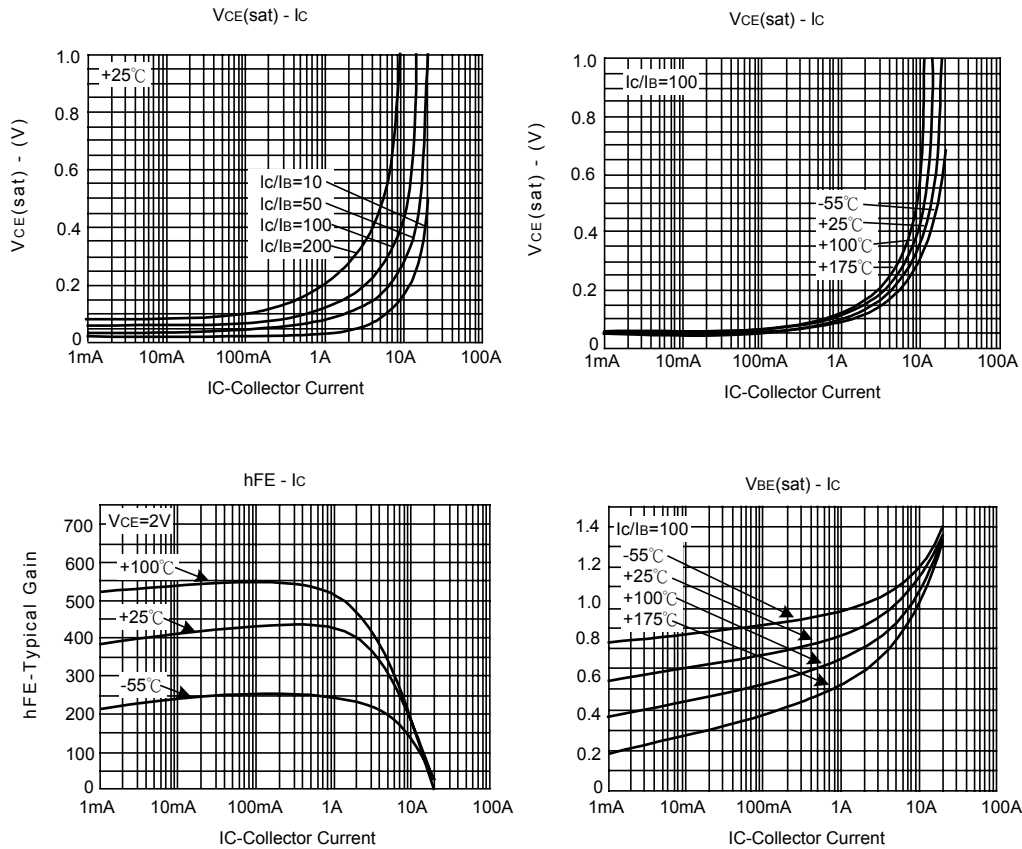
PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	V_{CB0}	$I_c=100\mu A$	80	120		V
Collector-Emitter Breakdown Voltage	V_{CEO}	$I_c=10mA$	25	35		V
Collector-Emitter Breakdown Voltage	V_{CES}	$I_c=100\mu A$	80	120		V
Collector-Emitter Breakdown Voltage	V_{CEV}	$I_c=100\mu A, V_{EB}=1V$	80	120		V
Emitter-Base Breakdown Voltage	V_{EB0}	$I_E=100\mu A$	5	8.75		V
Collector Cut-Off Current	I_{CB0}	$V_{CB}=50V$		0.3	10	nA
Emitter Cut-Off Current	I_{EB0}	$V_{EB}=4V$		0.3	10	nA
Collector Emitter Cut-Off Current	I_{CES}	$V_{CES}=50V$		0.3	10	nA

UTC X1049A NPN EPITAXIAL SILICON TRANSISTOR

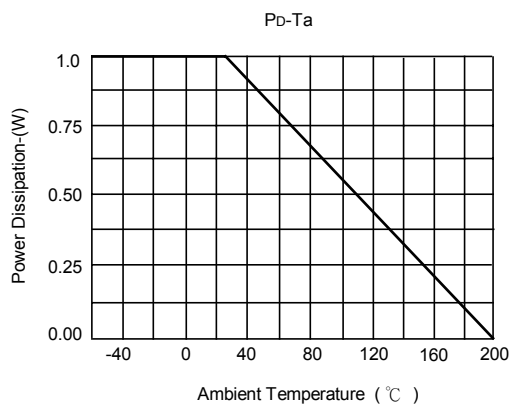
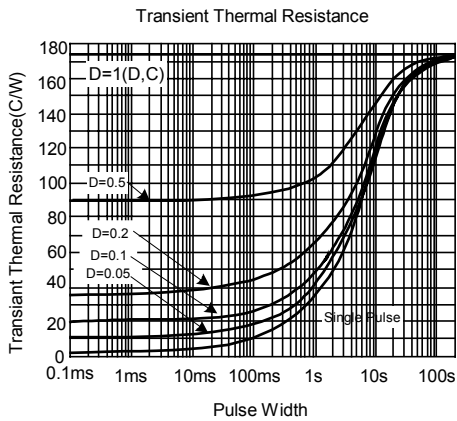
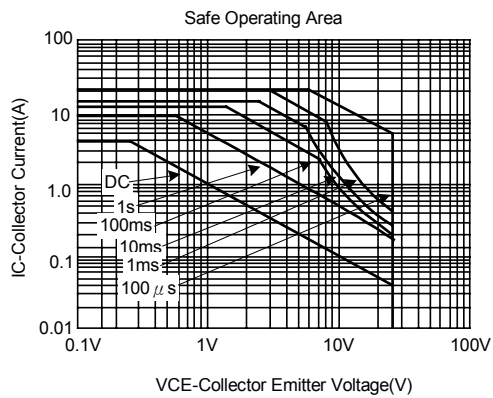
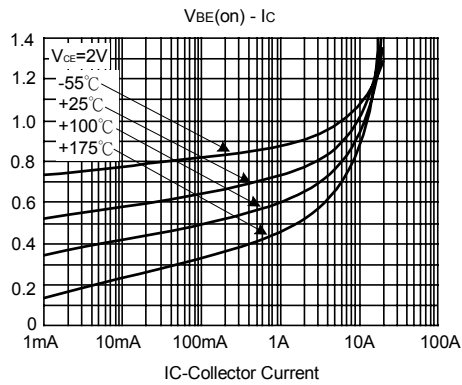
PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=0.5A, I_B=10mA^*$ $I_C=1A, I_B=10mA^*$ $I_C=2A, I_B=10mA^*$ $I_C=4A, I_B=50mA^*$		30 60 125 155	70 130 280 400	mV
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=4A, I_B=50mA^*$		890	980	mV
Base-Emitter Turn-On Voltage	$V_{BE(on)}$	$I_C=4A, V_{CE}=2V^*$		820	920	mV
DC Current Gain	h_{FE}	$I_C=10mA, V_{CE}=2V^*$ $I_C=0.5A, V_{CE}=2V^*$ $I_C=1A, V_{CE}=2V^*$ $I_C=4A, V_{CE}=2V^*$ $I_C=20A, V_{CE}=2V^*$	250 300 300 200 7	430 450 450 350	1200	
Transition Frequency	f_T	$I_C=50mA, V_{CE}=10V, f=50MHz$		180		MHz
Output Capacitance	C_{obo}	$V_{CB}=10V, f=1MHz$		45	60	pF
Turn - On Time	t_{on}	$I_C=4A, I_B=40mA, V_{CC}=10V$		125		ns
Turn - Off Time	t_{off}	$I_C=4A, I_B=\pm 40mA, V_{CC}=10V$		380		ns

*Measured under pulsed conditions. Pulse width=300 μ s. Duty cycle \leq 2%

TYPICAL CHARACTERISTICS



UTC X1049A NPN EPITAXIAL SILICON TRANSISTOR



UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.