



ULB124

NPN SILICON TRANSISTOR

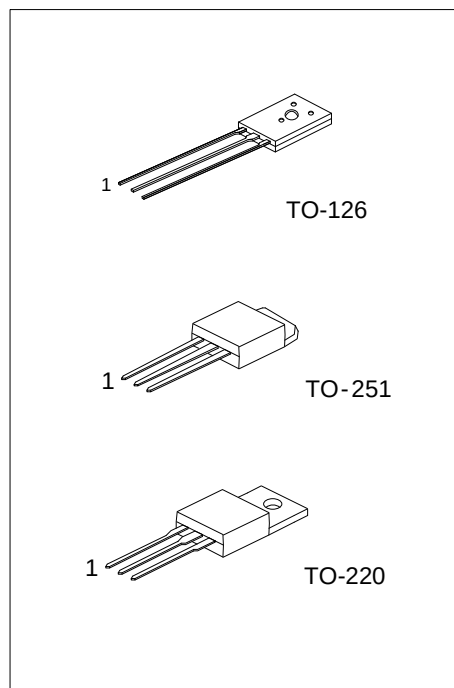
NPN EPITAXIAL PLANAR TRANSISTOR

DESCRIPTION

The UTC **ULB124** is designed for high voltage, high speed switching inductive circuits, and amplifier applications.

FEATURES

- * High Speed Switching
- * Low Saturation Voltage
- * High Reliability



ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
ULB124L-xx-TA3-T	ULB124G-xx-TA3-T	TO-220	B	C	E	Tube
ULB124L-xx-TM3-T	ULB124G-xx-TM3-T	TO-251	B	C	E	Tube
ULB124L-xx-T60-K	ULB124G-xx-T60-K	TO-126	B	C	E	Bulk

	(1) Packing Type	(1) T: Tube
	(2) Package Type	(2) TA3: TO-220, TM3: TO-251, T60: TO-126
	(3) Rank	(3) xx: refer to Classification of h_{FE1}
	(4) Lead Free	(4) L: Lead Free, G: Halogen Free

■ ABSOLUTE MAXIMUM RATING (T_A=25°C)

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		V _{CBO}	600	V
Collector-Emitter Voltage		V _{CEO}	400	V
Emitter-Base Voltage		V _{EBO}	8	V
Collector Current	DC	I _C	2	A
	Pulse		4	A
Base Current	DC	I _B	1	A
	Pulse		2	A
Power Dissipation (T _C =25°C)	TO-220	P _D	35	W
	TO-251		20	
	TO-126		1.4	
Junction Temperature		T _J	150	°C
Storage Temperature		T _{STG}	-40 ~ +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_A=25°C, unless otherwise specified.)

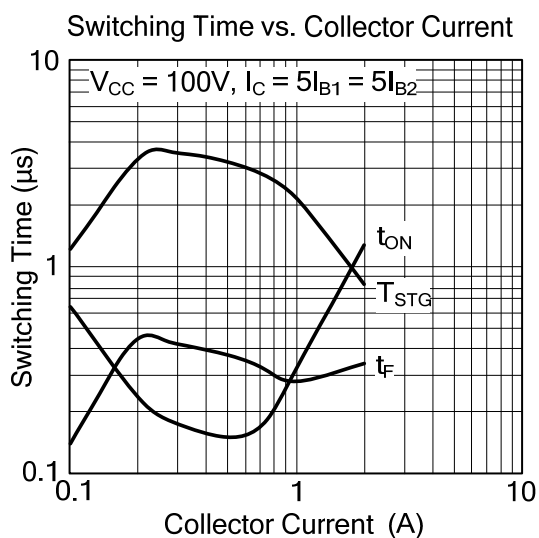
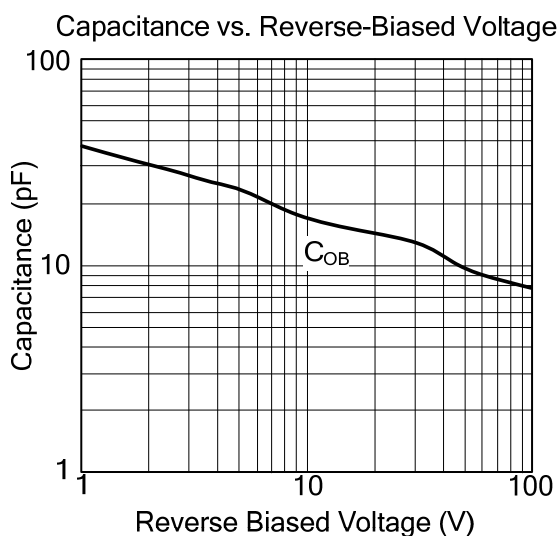
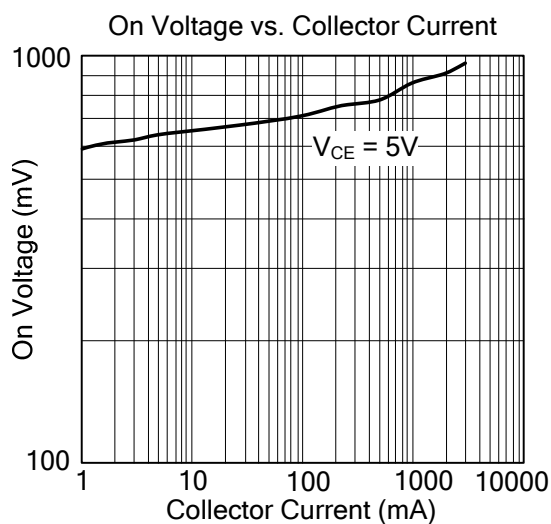
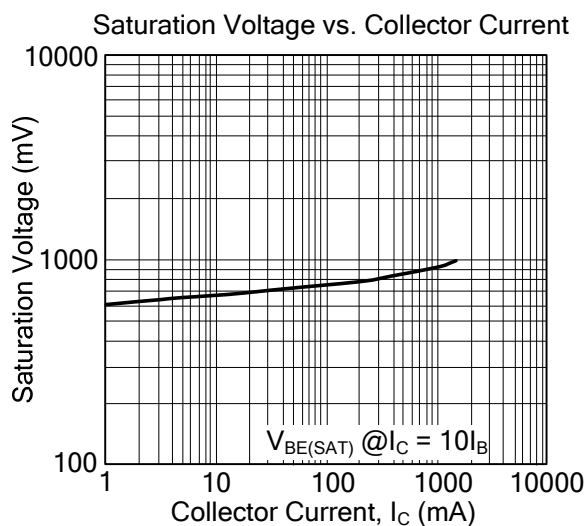
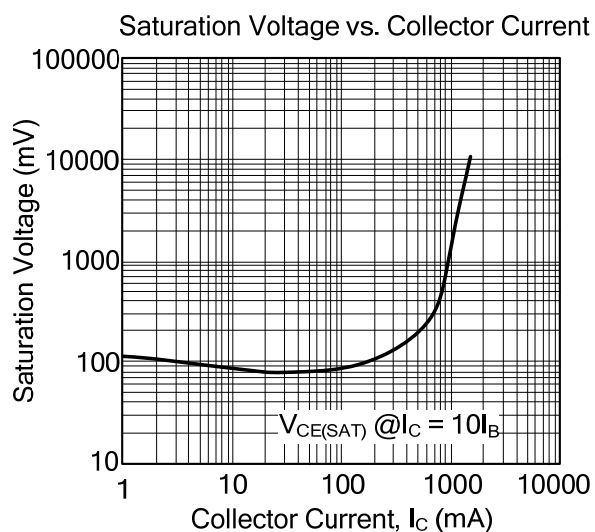
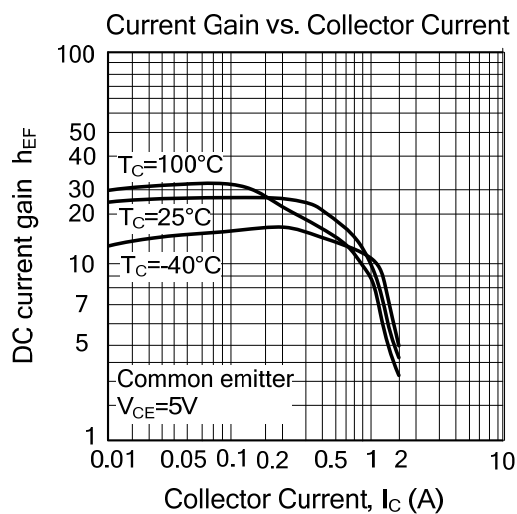
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Collector-Base Breakdown Voltage	BV _{CBO}	I _C =1mA	600			V
Collector-Emitter Breakdown Voltage	BV _{CEO}	I _C =10mA	400			V
Emitter-Base Breakdown Voltage	BV _{EBO}	I _E =1mA	8			V
Collector Cutoff Current	I _{CBO}	V _{CB} =600V			10	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =9V, I _C =0			10	μA
ON CHARACTERISTICS						
DC Current Gain(Note)	h _{FE1}	V _{CE} = 5V, I _C =0.3A	10		40	
	h _{FE2}	V _{CE} = 5V, I _C =0.5A	10			
	h _{FE3}	V _{CE} = 5V, I _C =1A	6			
Collector-Emitter Saturation Voltage (Note)	V _{CE(SAT)}	I _C =0.1A, I _B =10mA			0.3	V
		I _C =0.3A, I _B =30mA			0.8	V
Base-Emitter Saturation Voltage (Note)	V _{BE(SAT)}	I _C =0.1A, I _B =10mA			0.9	V
		I _C =0.3A, I _B =30mA			1.2	V
SWITCHING CHARACTERISTICS						
Gain-Bandwidth Product	f _T	V _{CE} =10V, I _C =0.3A, f=1MHz	15			MHz

Note: Pulse Test : Pulse Width ≤ 380μs, Duty Cycle ≤ 2%

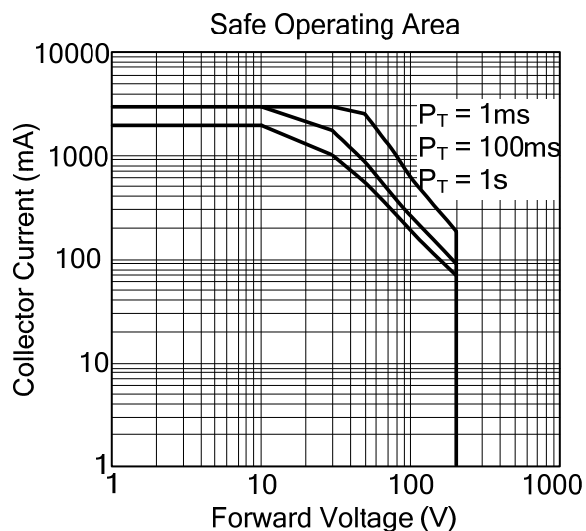
■ CLASSIFICATION OF h_{FE}1

RANK	B1	B2	B3	B4	B5	B6
Range	10 ~ 17	13 ~ 22	18 ~ 27	23 ~ 32	28 ~ 37	33 ~ 40

TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS(Cont.)



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