



UBV45

NPN SILICON TRANSISTOR

HIGH VOLTAGE FAST SWITCHING NPN POWER APPLICATIONS

■ DESCRIPTION

The device is manufactured using High Voltage Multi Epitaxial Planar technology for high switching speeds and high voltage capability.

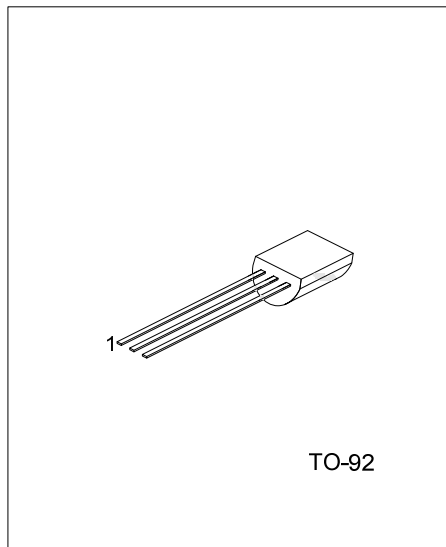
The UTC **UBV45** is designed for use in Compact Fluorescent Lamps.

■ FEATURES

- * High Voltage Capability
- * Low Spread of Dynamic Parameters
- * Very High Switching Speed

■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free Plating	Halogen Free		1	2	3	
UBV45L-T92-B	UBV45G-T92-B	TO-92	E	C	B	Tape Box
UBV45L-T92-K	UBV45G-T92-K	TO-92	E	C	B	Bulk



UBV45L-T92-B		(1)Packing Type	(1) B: Tape Box, K: Bulk
		(2)Package Type	(2) T92: TO-92
		(3)Lead Free	(3) L: Lead Free, G: Halogen Free

■ ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector Emitter Voltage ($V_{BE} = 0$)	V_{CES}	700	V
Collector Emitter Voltage ($I_B = 0$)	V_{CEO}	400	V
Emitter Base Voltage ($I_C = 0$)	V_{EBO}	9	V
Collector Current	I_C	0.75	A
Collector Peak Current ($t_p < 5$ ms)	I_{CM}	1.5	A
Base Current	I_B	0.4	A
Base Peak Current ($t_p < 5$ ms)	I_{BM}	0.75	A
Total Dissipation at Ta = 25°C	P_D	0.95	W
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.

■ THERMAL DATA

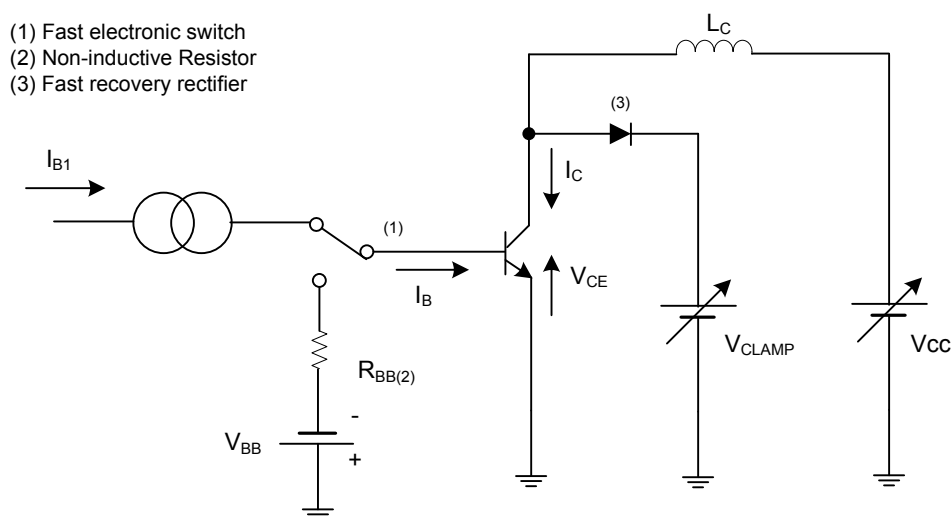
PARAMETER	SYMBOL	RATINGS	UNIT
Thermal Resistance Junction-ambient	θ_{JA}	130	°C / W

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

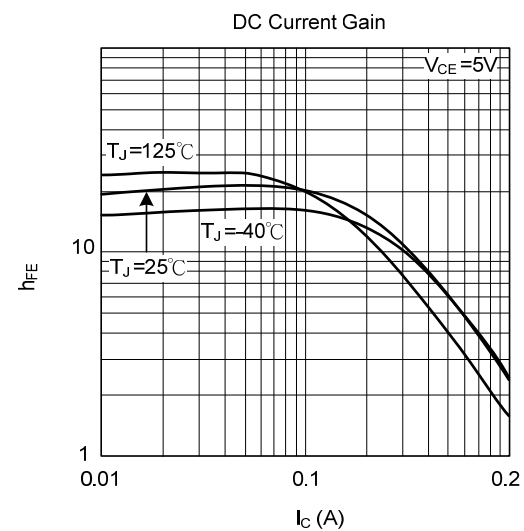
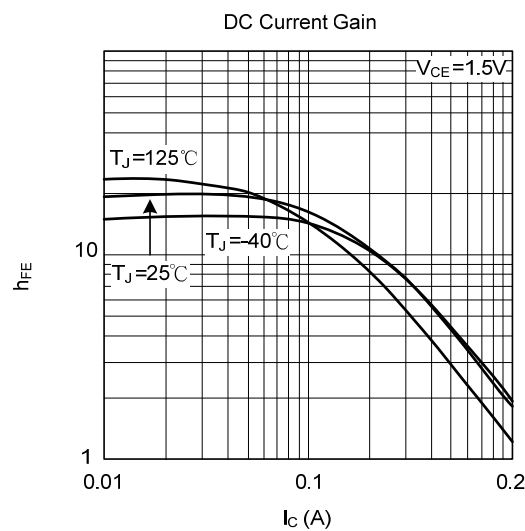
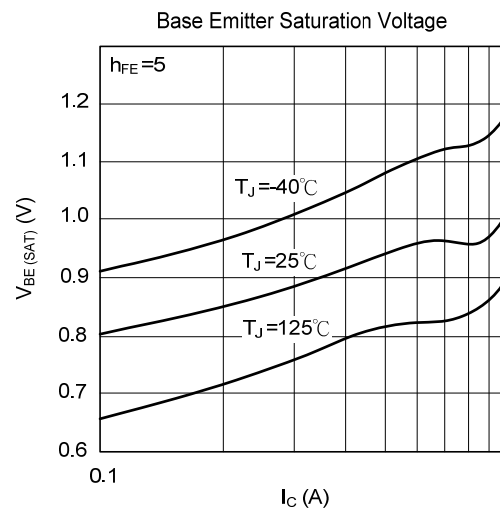
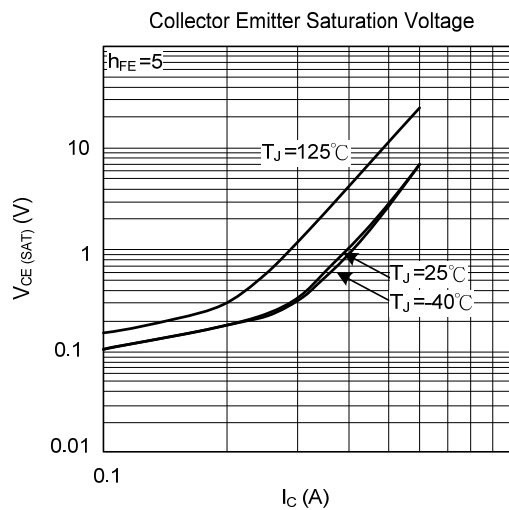
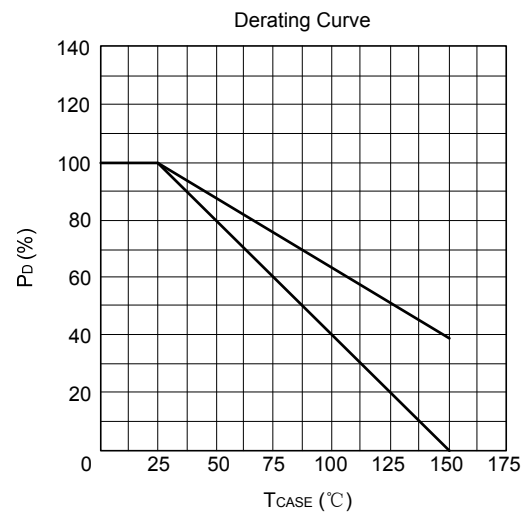
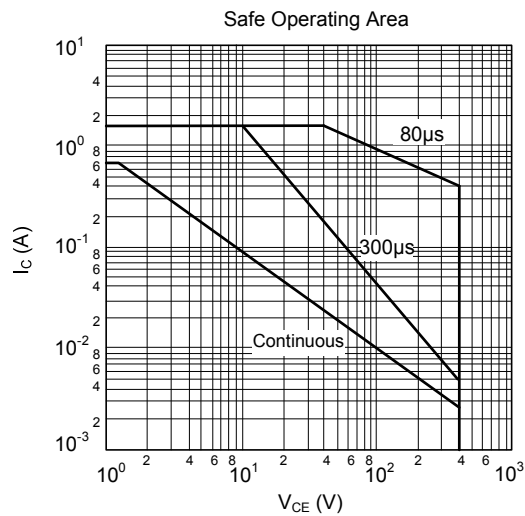
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Emitter Sustaining Voltage ($I_B = 0$) (Note)	$V_{CEO(SUS)}$	$I_C = 1$ mA	400			V
Collector Emitter Saturation Voltage (Note)	$V_{CE(SAT)}$	$I_C = 0.2$ A, $I_B = 40$ mA		0.2	0.5	V
		$I_C = 0.3$ A, $I_B = 75$ mA		0.3	1	
		$I_C = 0.4$ A, $I_B = 135$ mA		0.4	1.5	
Base Emitter Saturation Voltage (Note)	$V_{BE(SAT)}$	$I_C = 0.2$ A, $I_B = 40$ mA			1	V
		$I_C = 0.3$ A, $I_B = 75$ mA			1.2	
Emitter Cut off Current ($I_C = 0$)	I_{EBO}	$V_{EB} = 9$ V			1	mA
Collector Cut off Current ($V_{BE} = -1.5$ V)	I_{CEV}	$V_{CE} = 700$ V			250	μ A
DC Current Gain	h_{FE}^*	$I_C = 0.2$ A, $V_{CE} = 5$ V	12		27	
		$I_C = 0.4$ A, $V_{CE} = 5$ V	7		20	
Inductive Load Fall Time	t_F	$I_C = 0.2$ A, $V_{CLAMP} = 300$ V $I_{B1} = -I_{B2} = 40$ mA, $L = 3$ mH		0.3		μ s

Note: Pulsed: Pulse duration = 300 μ s, duty cycle = 1.5 %

■ INDUCTIVE LOAD SWITCHING TEST CIRCUIT



TYPICAL CHARACTERISTICS



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