



UBV45

NPN SILICON TRANSISTOR

HIGH VOLTAGE FAST SWITCHING NPN POWER APPLICATIONS

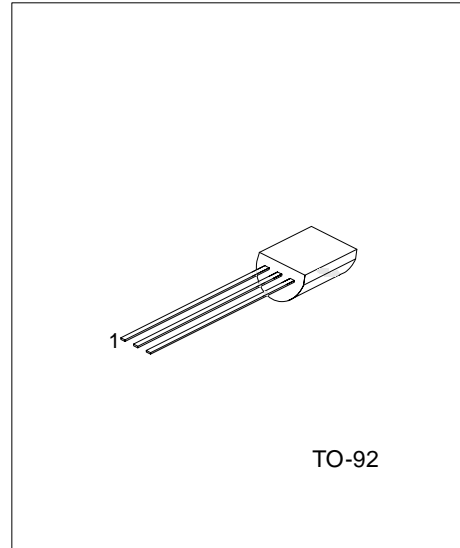
■ **DESCRIPTION**

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



*Pb-free plating product number: UBV45L

■ **ORDERING INFORMATION**

Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
UBV45-T92-B	UBV45L-T92-B	TO-92	E	C	B	Tape Box
UBV45-T92-K	UBV45L-T92-K	TO-92	E	C	B	Bulk

<p>UBV45L-T92-B</p> <p>(1)Packing Type</p> <p>(2)Package Type</p> <p>(3)Lead Plating</p>	<p>(1) B: Tape Box, K: Bulk</p> <p>(2) T92: TO-92</p> <p>(3) L: Lead Free Plating, Blank: Pb/Sn</p>
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■ ABSOLUTE MAXIMUM RATINGS (Ta = 25)

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

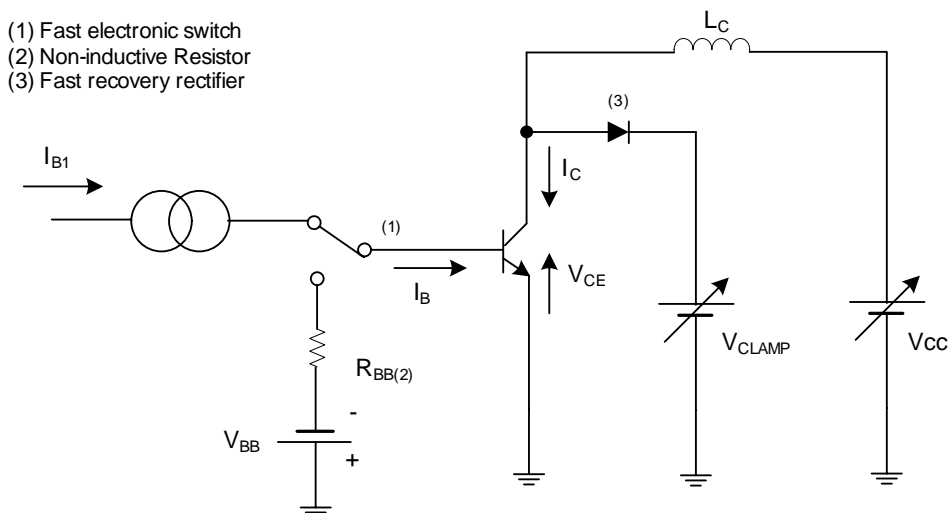
PARAMETER	SYMBOL	RATINGS	UNIT
Thermal Resistance Junction-ambient	J _A	130	/W

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

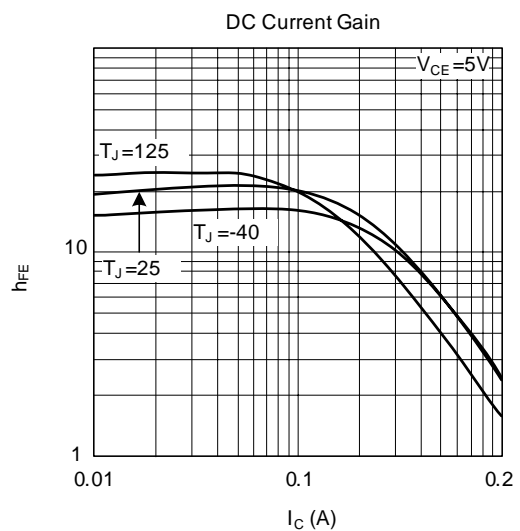
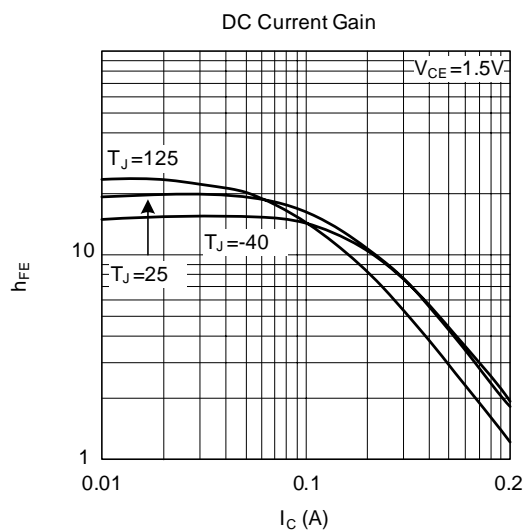
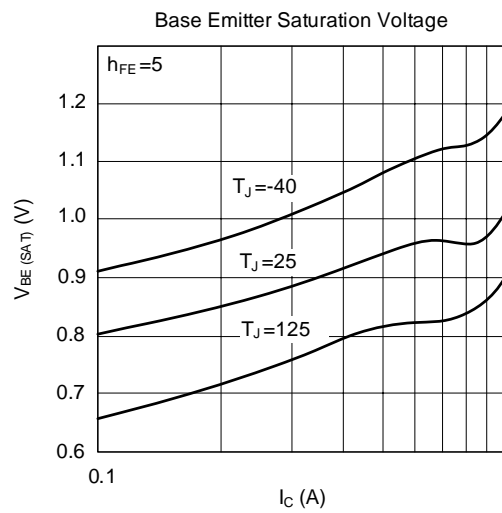
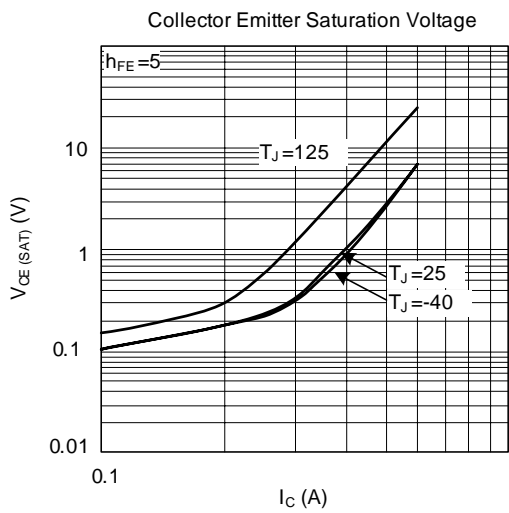
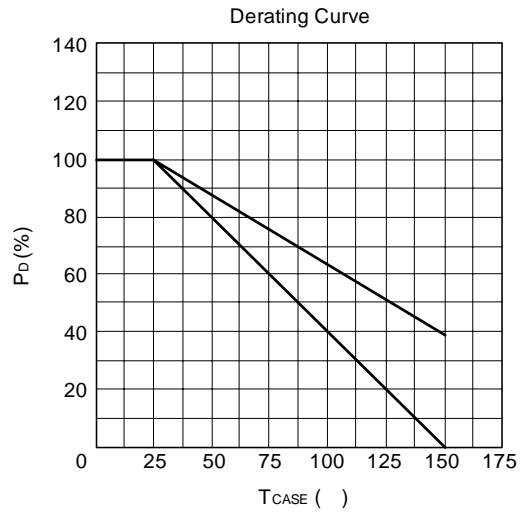
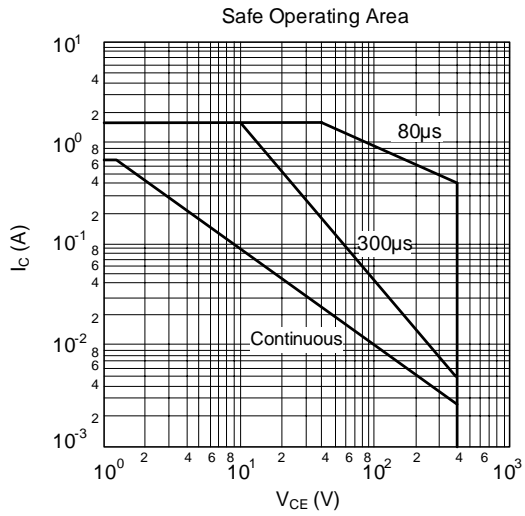
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Emitter Sustaining Voltage (I _B = 0)	V _{CEO(SUS)*}	I _C = 1 mA	400			V
Collector Emitter Saturation Voltage	V _{CE(SAT)*}	I _C = 0.2 A , I _B = 40 mA		0.2	0.5	V
		I _C = 0.3 A , I _B = 75 mA		0.3	1	
		I _C = 0.4 A , I _B = 135 mA		0.4	1.5	
Base Emitter Saturation Voltage	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} = -1.5V)	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

* Pulsed: Pulse duration = 300μs, duty cycle = 1.5 %

■ INDUCTIVE LOAD SWITCHING TEST CIRCUIT



TYPICAL CHARACTERISTICS



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