



**EB SERIES TRANSISTORS**

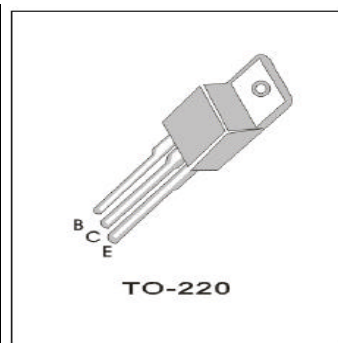
**EB13009D**

**FEATURES :** HIGH VOLTAGE CAPABILITY    HIGH SPEED SWITCHING    WIDE SOA  
**APPLICATION :** FLUORESCENT LAMP    ELECTRONIC BALLAST

**Absolute Maximum Ratings (Tc=25 )**

TO-220 NPN

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V <sub>CB0</sub>	700	V
Collector-Emitter Voltage	V <sub>CEO</sub>	400	V
Emitter-Base Voltage	V <sub>EBO</sub>	9	V
Collector Current	I <sub>C</sub>	12	A
Total Power Dissipation	P <sub>C</sub>	100	W
Junction Temperature	T <sub>j</sub>	150	
Storage Temperature	T <sub>stg</sub>	-65-150	



**Electronic Characteristics (Tc=25 )**

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Collector-Base Cutoff Current	I <sub>CBO</sub>	V <sub>CB</sub> =700v		100	μA
Collector-Emitter Cutoff Current	I <sub>CEO</sub>	V <sub>CE</sub> =400v		250	μA
Collector-Emitter Voltage	V <sub>CEO</sub>	I <sub>C</sub> =10mA I <sub>B</sub> =0	400		V
Emitter-Base Voltage	V <sub>EBO</sub>	I <sub>E</sub> =1mA I <sub>C</sub> =0	9		V
Collector-Emitter Saturation Voltage	V <sub>cesat</sub>	I <sub>C</sub> =8.0A I <sub>B</sub> =1.6A		0.8	V
		I <sub>C</sub> =12A I <sub>B</sub> =3A		2.0	V
Base-Emitter Saturation Voltage	V <sub>besat</sub>	I <sub>C</sub> =8.0A I <sub>B</sub> =1.6A		1.5	V
DC Current Gain	HFE	V <sub>CE</sub> =5v I <sub>C</sub> =10mA	7		
		V <sub>CE</sub> =5v I <sub>C</sub> =3.0A	10	50	
		V <sub>CE</sub> =5v I <sub>C</sub> =12.0A	5		
Storage Time	T <sub>s</sub>	V <sub>CC</sub> =5V	4.0	10.0	μs
Falling Time	T <sub>f</sub>	I <sub>C</sub> =0.5A		1.0	μs
Diode Forward Voltage	V <sub>f</sub>	I <sub>F</sub> =3.0A		2	V

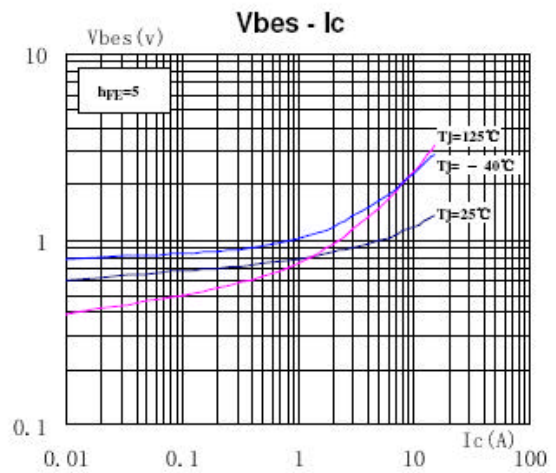
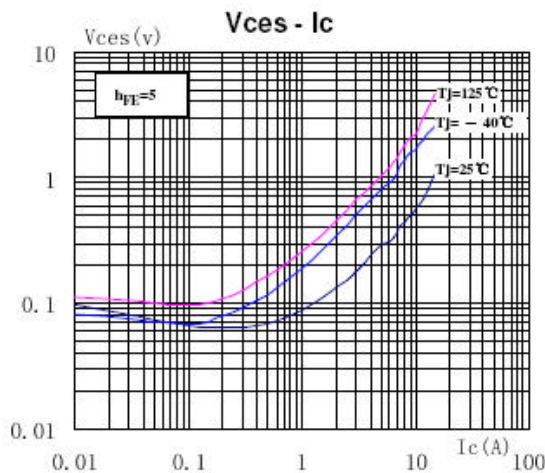
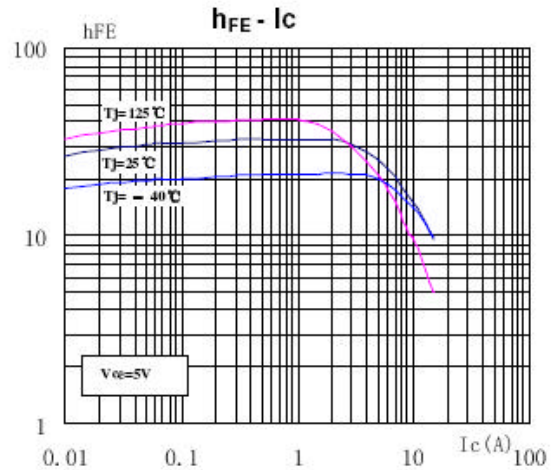
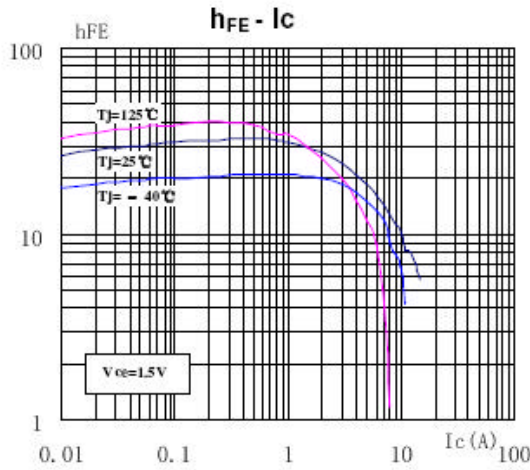
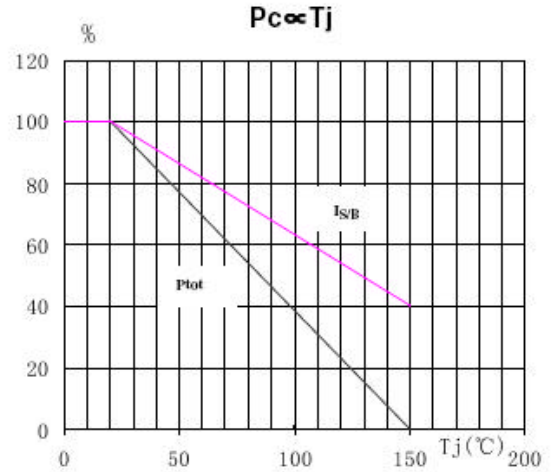
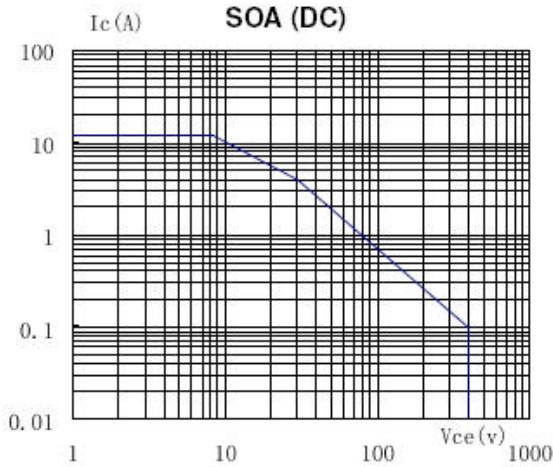
**CLASSIFICATION OF HFE AND TS**

<b>HFE</b>	15-20	20-25	25-30	30-35	35-40	40-45
<b>TS</b>	4.0-5.0	5.0-6.0	6.0-7.0	7.0-8.0	8.0-9.0	9.0-10.0



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**TO-220 MECHANICAL DATA**

SYMBOL	Min	Nom	Max	SYMBOL	Min	Nom	Max
A	3.5	4.5	5.0	L	12.5	13.5	14.5
B	1.25	1.35	1.5	L1	2.5	3.37	4.5
B1	0.75	0.85	0.955	D1	5.9	6.5	7.1
b	0.6			b			1.2
c	0.35	0.43	0.55	Q	1.5	2.5	3.5
D	14.0	15.5	16.5	Q1	2.0	2.6	3.5
E	9.0	10.0	11.0	Z	3.0	3.8	4.5
e		2.54					

