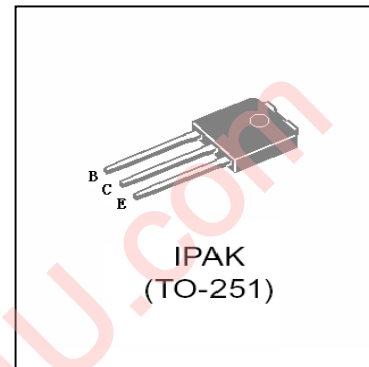


**BUL SERIES TRANSISTORS****BUL1688**

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

● **Absolute Maximum Ratings (Tc=25°C)** **TO-251**

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	700	V
Collector-Emitter Voltage	$V_{CEO}$	400	V
Emitter- Base Voltage	$V_{EBO}$	9	V
Collector Current	$I_C$	5.0	A
Total Power Dissipation	$P_C$	50	W
Junction Temperature	$T_j$	150	°C
Storage Temperature	$T_{stg}$	-65-150	°C

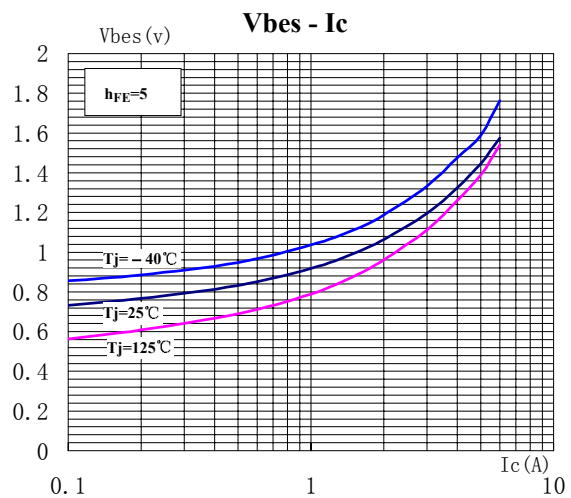
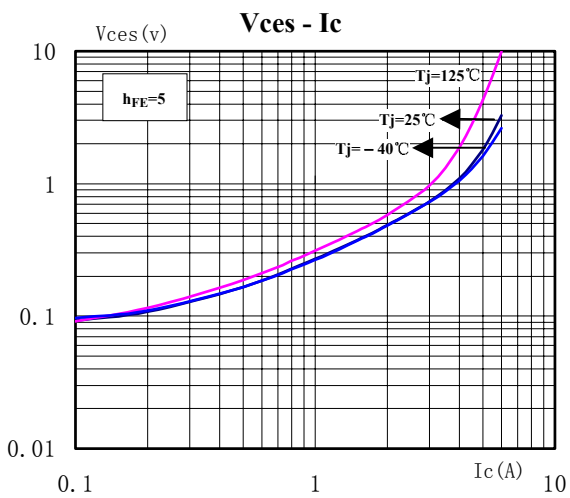
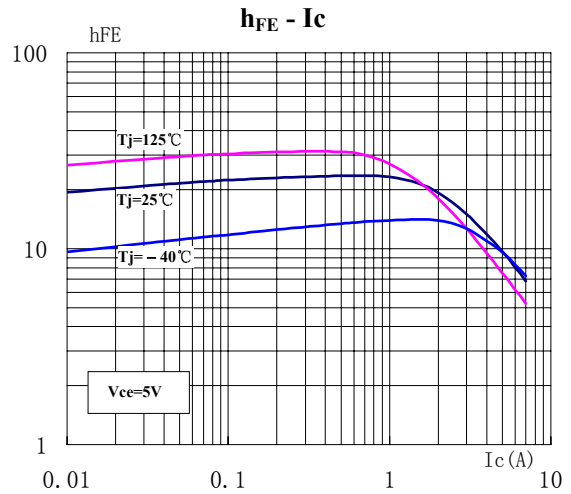
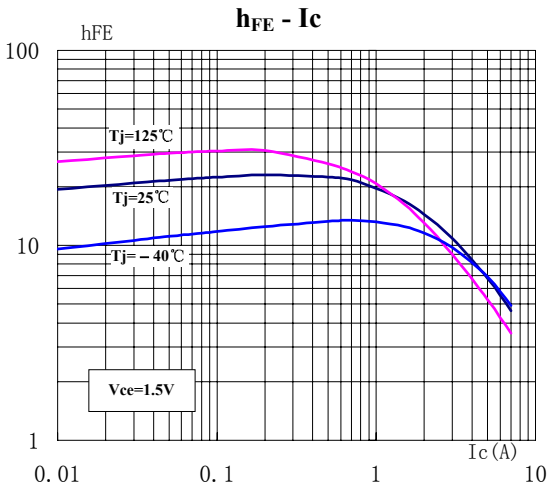
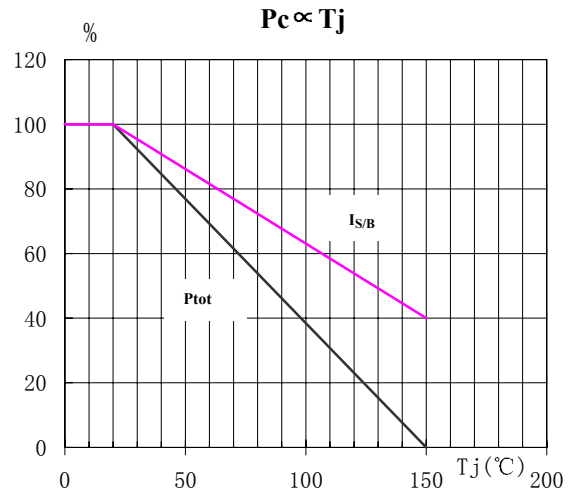
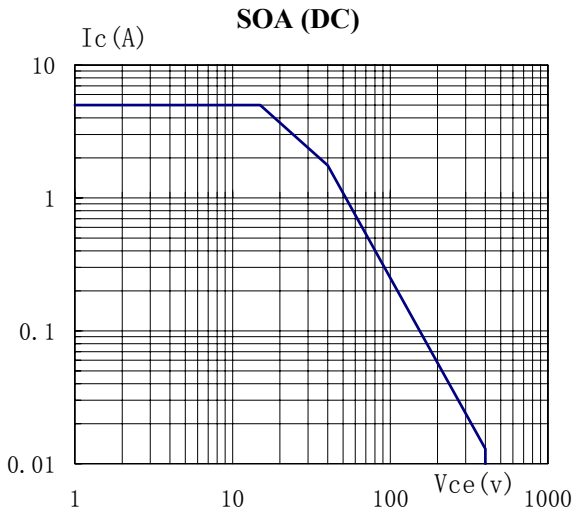


● **Electronic Characteristics (Tc=25°C)**

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Collector-Base Cutoff Current	$I_{CBO}$	$V_{CB}=700V$		100	$\mu A$
Collector-Emitter Cutoff Current	$I_{CEO}$	$V_{CE}=400V, I_B=0$		250	$\mu A$
Collector-Emitter Voltage	$V_{CEO}$	$I_C=10mA, I_B=0$	400		V
Emitter-Base Voltage	$V_{EBO}$	$I_E=1mA, I_C=0$	9		V
Collector-Emitter Saturation Voltage	$V_{ces}$	$I_C=1.0A, I_B=0.2A$		0.5	V
		$I_C=2.0A, I_B=0.4A$		0.7	
		$I_C=4.0A, I_B=1.0A$		1.5	
Base-Emitter Saturation Voltage	$V_{bes}$	$I_C=2.0A, I_B=0.4A$		1.5	V
DC Current Gain	$h_{FE}$	$V_{CE}=5V, I_C=10mA$	8		
		$V_{CE}=5V, I_C=1.0A$	10	40	
		$V_{CE}=5V, I_C=2.5A$	8		
Storage Time	$t_s$	$V_{CC}=250V,$		3	$\mu S$
Falling Time	$t_f$	$I_C=5I_B$ $I_{B1}=-I_{B2}=0.5A$		0.8	

**BUL SERIES TRANSISTORS**

**BUL1688**



### TO-251 (IPAK) MECHANICAL DATA

UNIT: mm

SYMBOL	min	nom	max
A	2.2		2.4
A <sub>1</sub>	1.1		1.3
B	1.35		1.65
b	0.5		0.7
b <sub>1</sub>	0.7		0.9
c	0.46		0.56
c <sub>1</sub>	0.46		0.56
D	6.35		6.65
D <sub>1</sub>	5.2		5.4
E	5.4		5.6
e		2.3	
e <sub>1</sub>	4.5		4.7
L	7.5		7.9

