

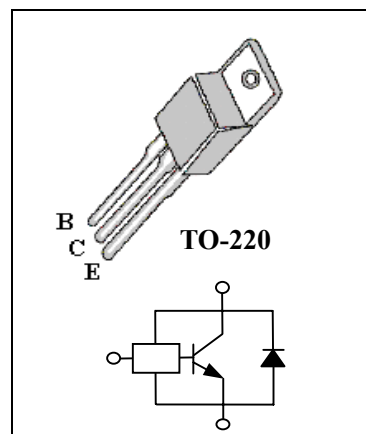
BLD SERIES TRANSISTORS

BLD139D

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

● Absolute Maximum Ratings ($T_c=25^\circ\text{C}$) TO-220

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	12	A
Total Power Dissipation	P_C	100	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-65-150	$^\circ\text{C}$

● Electronic Characteristics ($T_c=25^\circ\text{C}$)

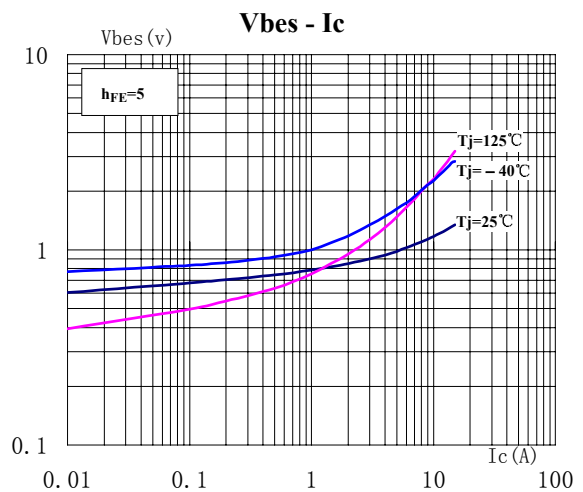
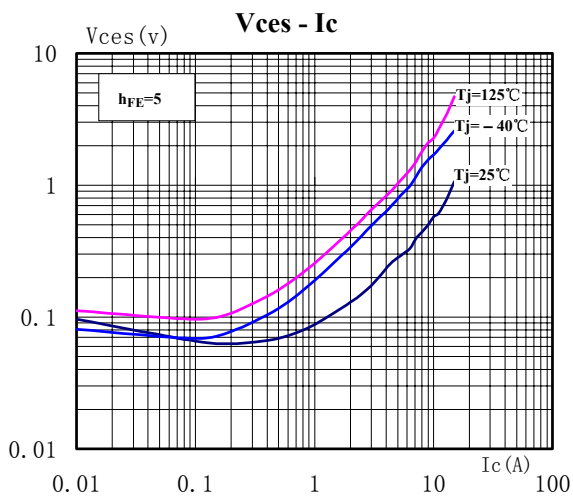
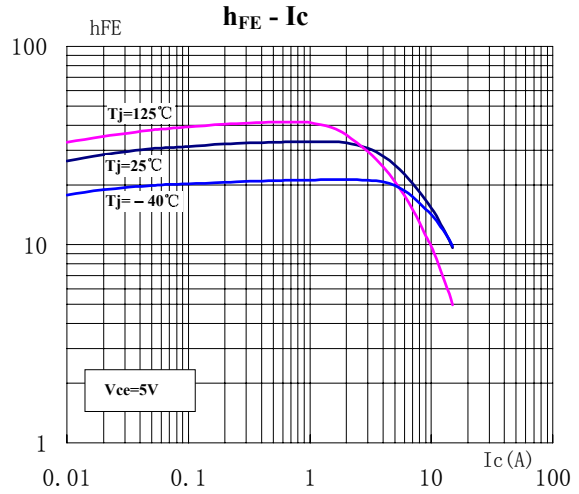
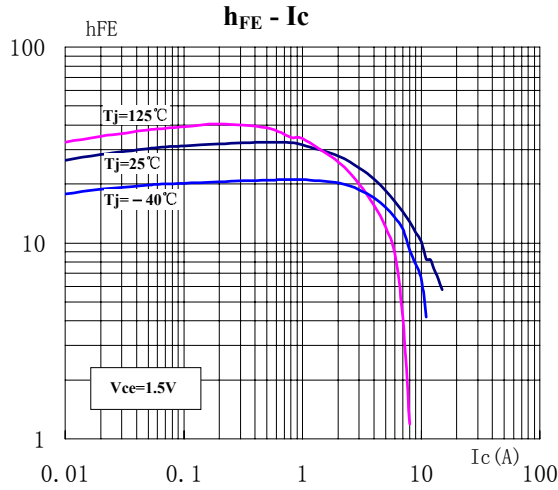
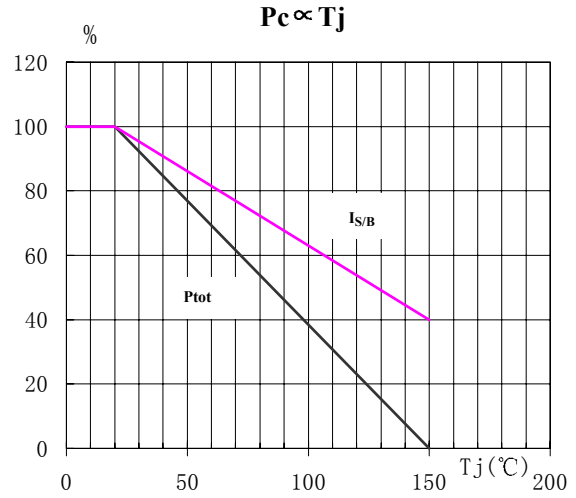
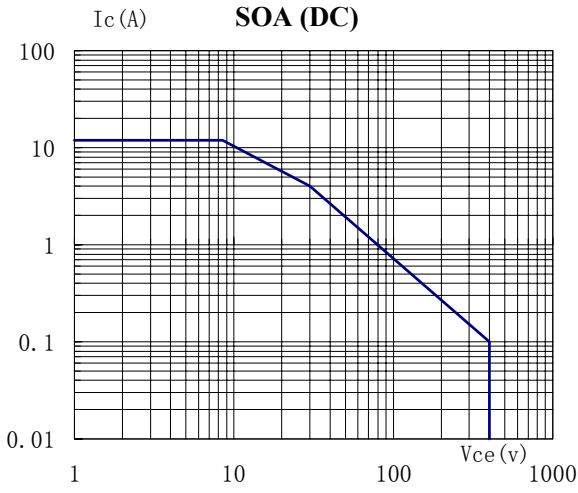
CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Collector-Base Cutoff Current	I_{CBO}	$V_{CB}=700\text{V}$		100	μA
Collector-Emitter Cutoff Current	I_{CEO}	$V_{CE}=400\text{V}, I_B=0$		250	μA
Collector-Emitter Voltage	V_{CEO}	$I_C=10\text{mA}, I_B=0$	400		V
Emitter -Base Voltage	V_{EBO}	$I_E=1\text{mA}, I_C=0$	9		V
Collector-Emitter Saturation Voltage	V_{ces}	$I_C=5.0\text{A}, I_B=1.0\text{A}$		1.0	V
		$I_C=8.0\text{A}, I_B=1.6\text{A}$		1.5	
		$I_C=12.0\text{A}, I_B=3.0\text{A}$		3.0	
Base-Emitter Saturation Voltage	V_{bes}	$I_C=5.0\text{A}, I_B=1.0\text{A}$		1.5	V
DC Current Gain	h_{FE}	$V_{CE}=5\text{V}, I_C=10\text{mA}$	10		
		$V_{CE}=5\text{V}, I_C=5.0\text{A}$	15	80	
Storage Time	t_s	$V_{CC}=5\text{V}, I_C=0.5\text{A}$ (UI9600 test)		10	us
Falling Time	t_f			0.8	

Integrated diode characteristics

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Diode Forward Voltage	V_f	$I_C=3.0\text{A}$		2.5	V

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TO-220 MECHANICAL DATA

UNIT: mm

SYMBOL	min	nom	max	SYMBOL	min	nom	max
A	3.5		4.8	e		2.54	
B			2.4	F	1.1		1.4
B1			1.8	L	12.5		14.5
b	0.6			L1			3.5
$\phi b1$			1.2	L2			6.3
c	0.4			ϕP			
D			16.5	Q	2.5		3.1
D1	5.9		6.9	Q1	2.0		2.8
E			10.7	Z	3.0		

