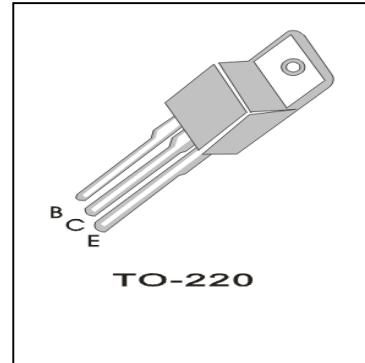


MJE LOW VOLTAGE SERIES TRANSISTORS**MJE13009L**

- **FEATURES:** ■ HIGH VOLTAGE CAPABILITY ■ HIGH SPEED SWITCHING ■ WIDE SOA
- **APPLICATION:** ■ SUITABLE FOR 110V CIRCUIT MODE ■ FLUORESCENT LAMP
- ELECTRONIC BALLAST ■ ELECTRONIC TRANSFORMER ■ SWITCH MODE POWER SUPPLY

● **Absolute Maximum Ratings (Tc=25°C)****TO-220**

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	400	V
Collector-Emitter Voltage	V_{CEO}	200	V
Emitter- Base Voltage	V_{EBO}	9	V
Collector Current	I_C	20	A
Total Power Dissipation	P_C	80	W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-65-150	°C

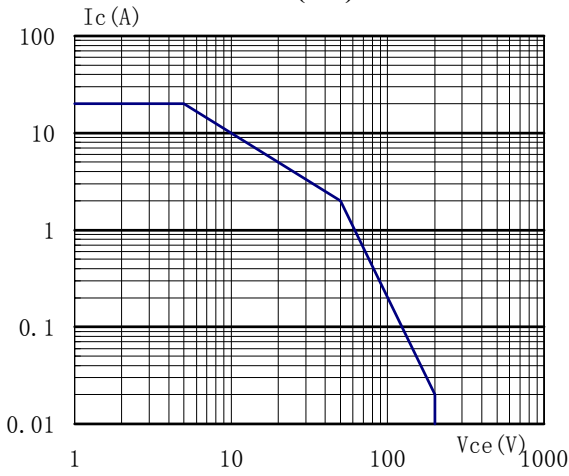
● **Electronic Characteristics (Tc=25°C)**

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Collector-Base Cutoff Current	I_{CBO}	$V_{CB}=400V$		100	μA
Collector-Emitter Cutoff Current	I_{CEO}	$V_{CE}=200V, I_B=0$		250	μA
Collector-Emitter Voltage	V_{CEO}	$I_C=10mA, I_B=0$	200		V
Emitter -Base Voltage	V_{EBO}	$I_E=1mA, I_C=0$	9		V
Collector-Emitter Saturation Voltage	V_{ces}	$I_C=2.0A, I_B=0.4A$		0.5	V
		$I_C=8.0A, I_B=1.6A$		1.0	
		$I_C=12.0A, I_B=3.0A$		2.0	
Base-Emitter Saturation Voltage	V_{bes}	$I_C=5.0A, I_B=1.0A$		1.5	V
DC Current Gain	h_{FE}	$V_{CE}=5V, I_C=10 mA$	8		
		$V_{CE}=5V, I_C=2.0 A$	10	40	
		$V_{CE}=5V, I_C=15.0 A$	5		

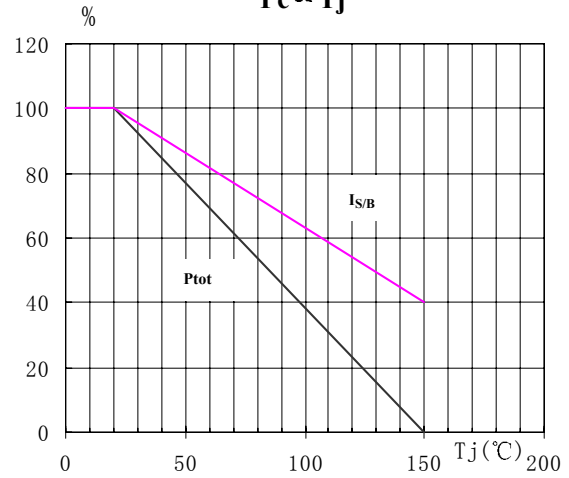
MJE LOW VOLTAGE SERIES TRANSISTORS

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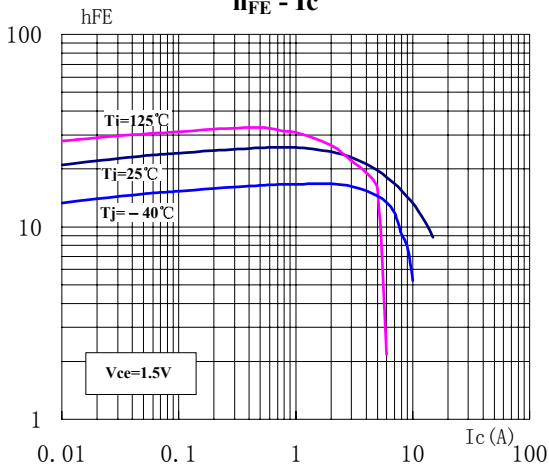
SOA (DC)



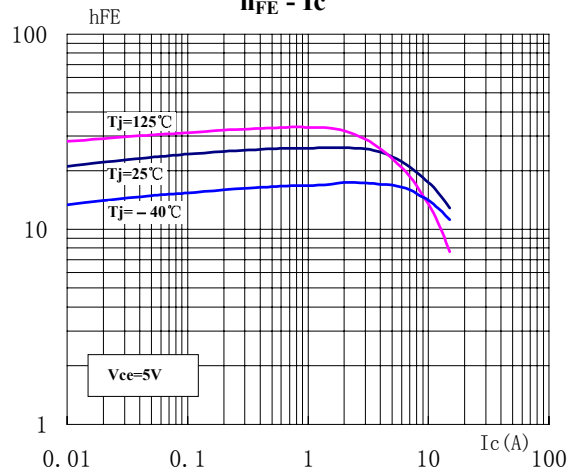
$P_c \propto T_j$



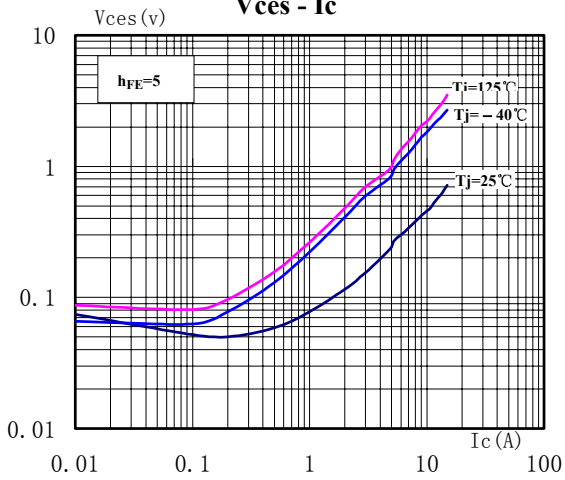
$h_{FE} - I_c$



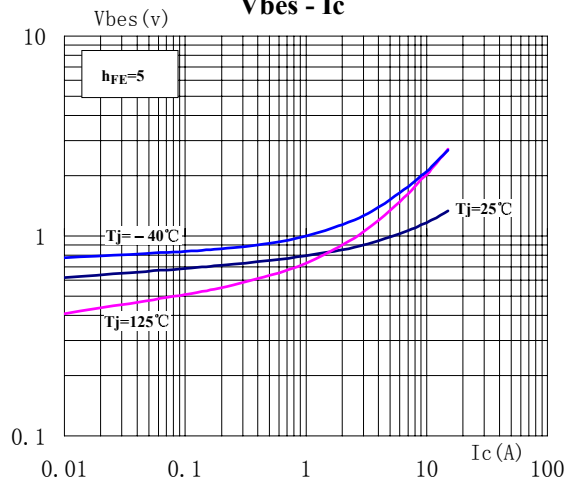
$h_{FE} - I_c$



$V_{ces} - I_c$



$V_{bes} - I_c$



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
ϕb_1			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		

