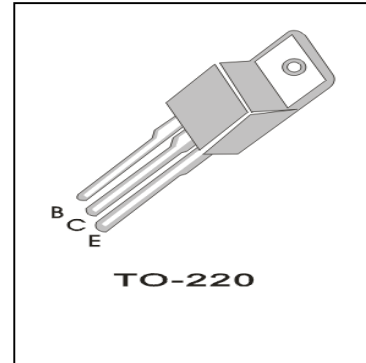


**MJE LOW VOLTAGE SERIES TRANSISTORS****MJE13009L**

- **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

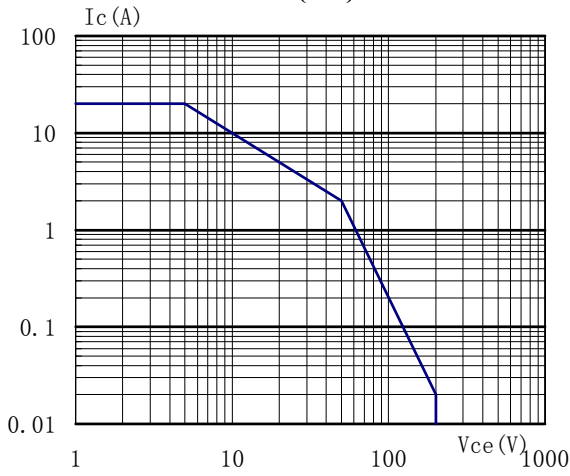
● **Electronic Characteristics ( Tc=25°C )**

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Collector-Base Cutoff Current	$I_{CBO}$	$V_{CB}=400V$		100	$\mu A$
Collector-Emitter Cutoff Current	$I_{CEO}$	$V_{CE}=200V, I_B=0$		250	$\mu A$
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		

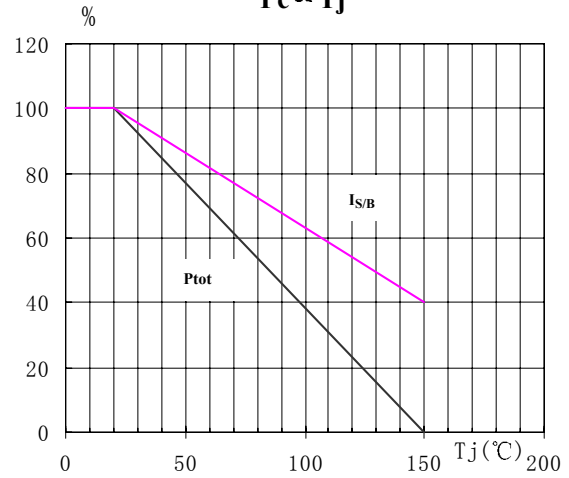
MJE LOW VOLTAGE SERIES TRANSISTORS

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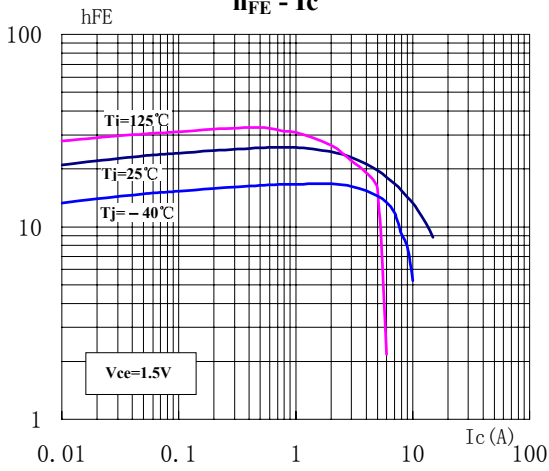
SOA (DC)



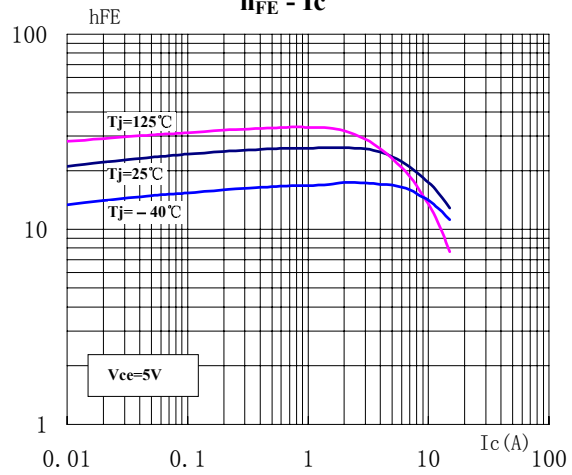
$P_c \propto T_j$



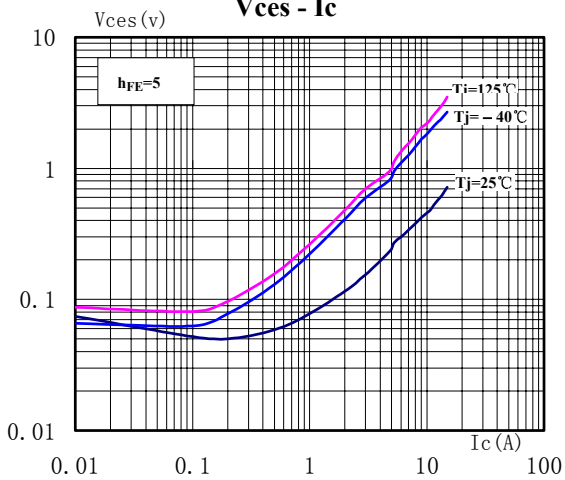
$h_{FE} - I_c$



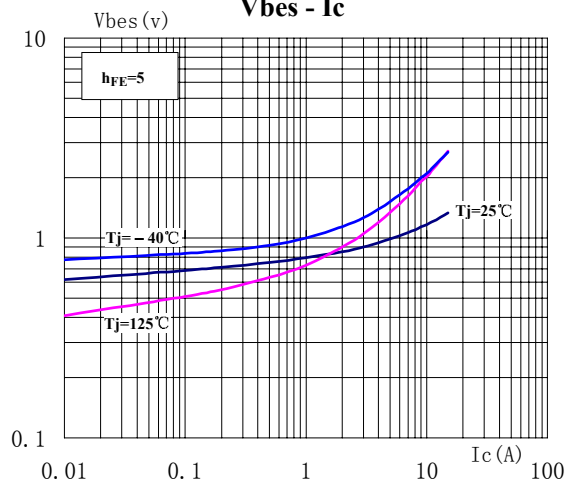
$h_{FE} - I_c$



$V_{ces} - I_c$



$V_{bes} - I_c$



### 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
$\phi b1$			1.2	L2			6.3
c	0.4			$\phi P$			
D			16.5	Q	2.5		3.1
D1	5.9		6.9	Q1	2.0		2.8
E			10.7	Z	3.0		

