

NPN SILICON POWER TRANSISTOR**MJE13001**

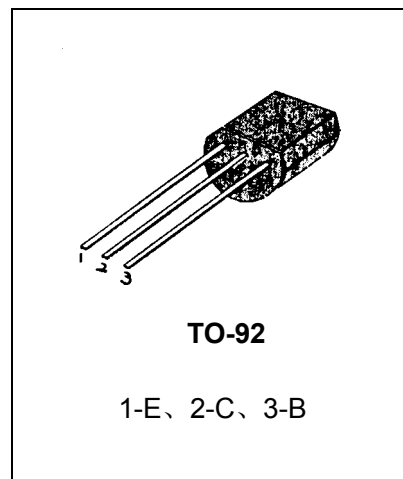
● **FEATURES:** ■HIGH VOLTAGE CAPABILITY ■HIGH SWITCHING SPEED ■WIDE SOA

● **APPLICATIONS:** ■ELECTRONIC BALLASTS FOR FLUORESCENT LIGHTING

■COMPACT FLUORESCENT LAMP

● **MAXIMUM RATINGS ($T_c=25^{\circ}\text{C}$) TO-92**

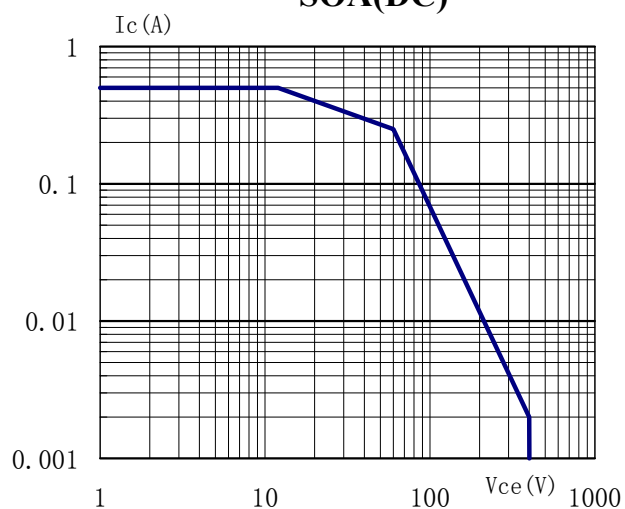
PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	500	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	9	V
Collector Current	I_C	0.5	A
Total Power Dissipation	P_C	7	W
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-65-150	$^{\circ}\text{C}$



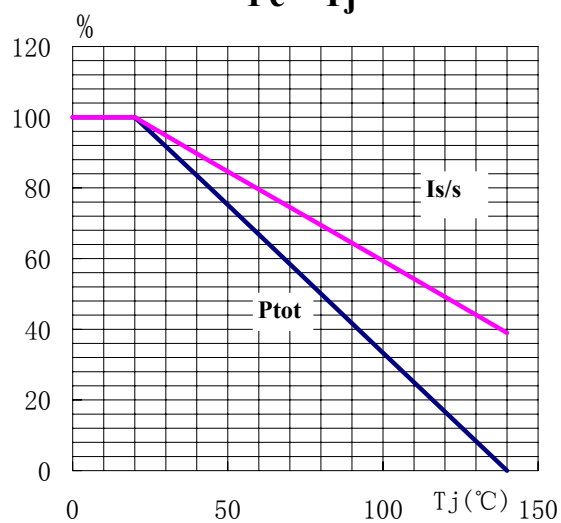
● **ELECTRICAL CHARACTERISTICS ($T_c=25^{\circ}\text{C}$)**

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Collector Cutoff Current	I_{CBO}	$V_{CB}=500\text{V}$		100	μA
Collector Cutoff Current	I_{CEO}	$V_{CE}=400\text{V}, I_B=0$		250	μA
Collector-Emitter Sustaining Voltage	V_{CEO}	$I_C=10\text{mA}, I_B=0$	400		V
Base-Emitter Sustaining Voltage	V_{EBO}	$I_E=1\text{mA}, I_C=0$	9		V
Collector-Emitter Saturation Voltage	V_{ces}	$I_C=0.05\text{A}, I_B=0.01\text{A}$		0.5	V
		$I_C=0.1\text{A}, I_B=0.02\text{A}$		1.0	
		$I_C=0.3\text{A}, I_B=0.1\text{A}$		3.0	
Base-Emitter Saturation Voltage	V_{bes}	$I_C=0.1\text{A}, I_B=0.02\text{A}$		1.5	V
DC Current Gain	h_{FE}	$V_{CE}=5\text{V}, I_C=1\text{mA}$	8		
		$V_{CE}=5\text{V}, I_C=20\text{mA}$	10	40	
		$V_{CE}=5\text{V}, I_C=200\text{mA}$	8		
Storage Time	t_s	$V_{CC}=250\text{V},$ $I_C=5I_{B1},$ $I_{B1}=I_{B2}=0.04\text{A}$		2.0	μS
Fall Time	t_f			0.8	

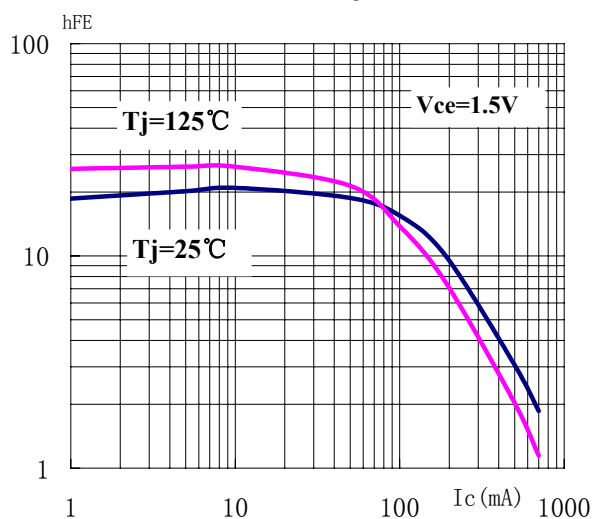
SOA(DC)



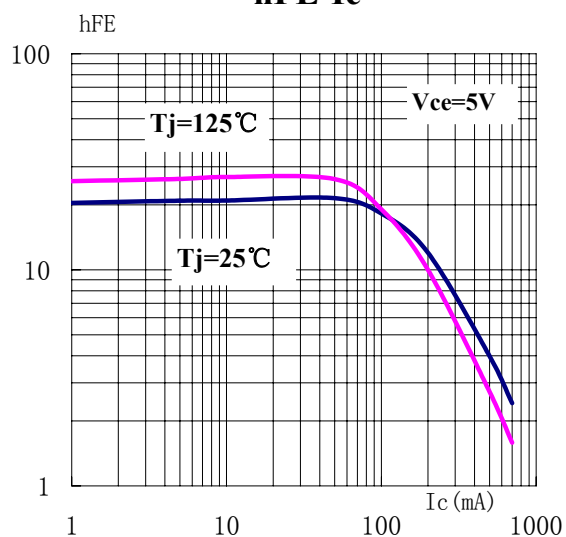
$P_c \propto T_j$



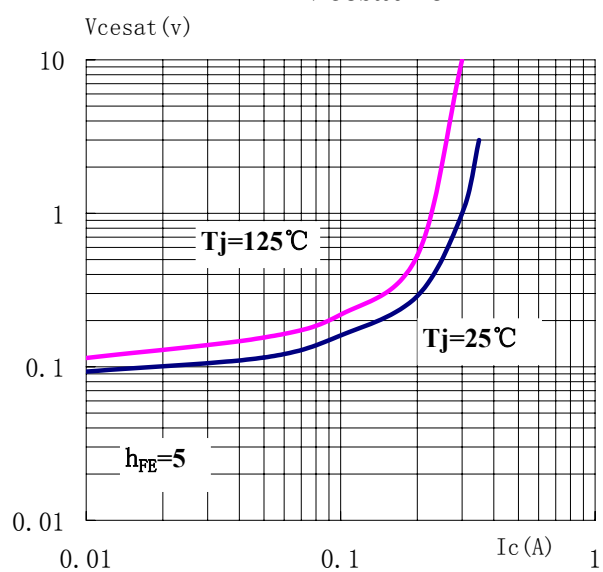
hFE-Ic



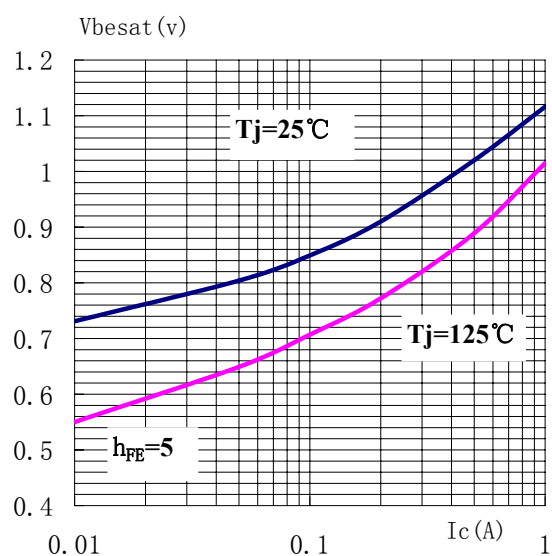
hFE-Ic



Vcesat-Ic



Vbesat-Ic



TO-92 MECHANICAL DATA

UNIT: mm

SYMBOL	min	nom	max
A	4.3		5.3
b	0.3		
c	0.3		
ϕD D	4.3		5.2
d	1.0		1.7
E	3.2		4.2
e		2.54	
e1		1.27	
L	12.7		
L1			2.0

