



HK13003E

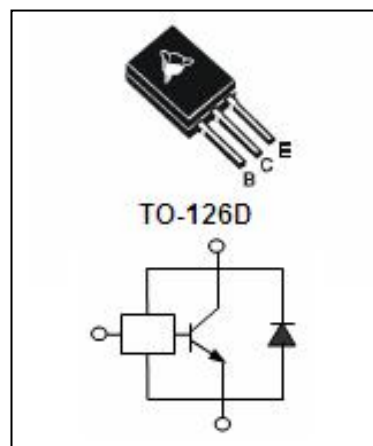
HIGH VOLTAGE FAST-SWITCHING NPN POWER TRANSISTOR

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

● **APPLICATION:** ■ FLUORESCENT LAMP ■ ELECTRONIC BALLAST

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CB0}	600	V
Collector-Emitter Voltage	V_{CE0}	400	V
Emitter- Base Voltage	V_{EBO}	9	V
Collector Current	I_C	1.5	A
Total Power Dissipation	P_C	30	W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-65-150	°C



Electronic Characteristics (T_j=25°C Unless Otherwise Specified)

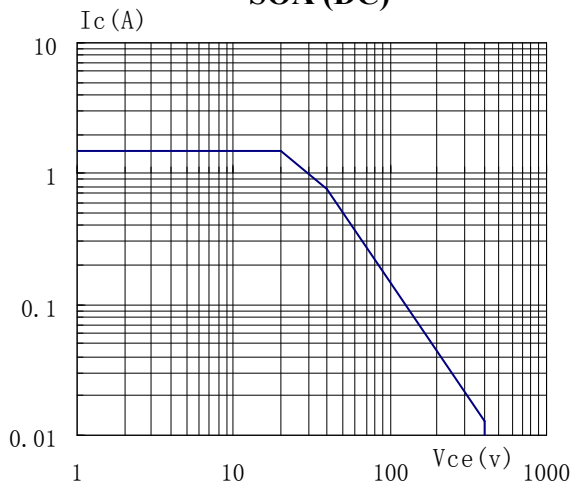
Parameter	Symbol	Test Conditons	Min	Max	Unit
Collector-Base Breakdown Voltage	BV_{CB0}	$I_C=1mA, I_E=0$	600		V
Collector-Emitter Breakdown Voltage	BV_{CE0}	$I_C=10mA, I_B=0$	400		V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=1mA, I_C=0$	9		V
Collector-Base Cutoff Current	I_{CBO}	$V_{CB}=600V, I_E=0$		10	μA
Collector-Emitter Cutoff Current	I_{CEO}	$V_{CE}=400V, I_B=0$		20	μA
Emitter –Base Cutoff Current	I_{EBO}	$V_{EB}=9V, I_C=0$		20	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=5V, I_C=200mA$	15	30	
DC Current Gain	$h_{FE(2)}$	$V_{CE}=5V, I_C=5mA$	10		
Collector-Emitter Saturation Voltage	V_{CESAT}	$I_C=1.2A, I_B=0.3A$		1.0	V
Base-Emitter Saturation Voltage	V_{BESAT}	$I_C=1.2A, I_B=0.3A$		1.3	V
Storage Time	t_s	UI9600 $I_C=0.25A$	1.5	3.5	μs
Falling Time	t_f				1.0



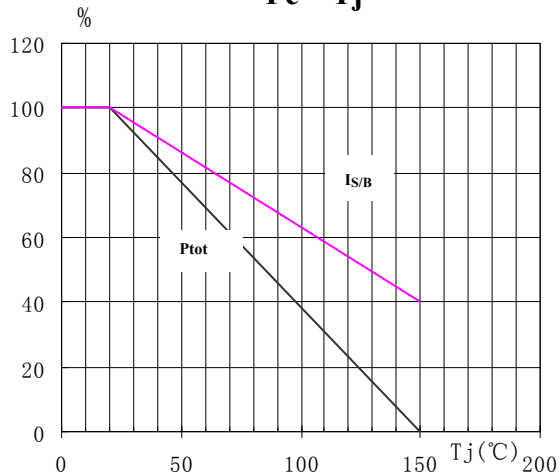
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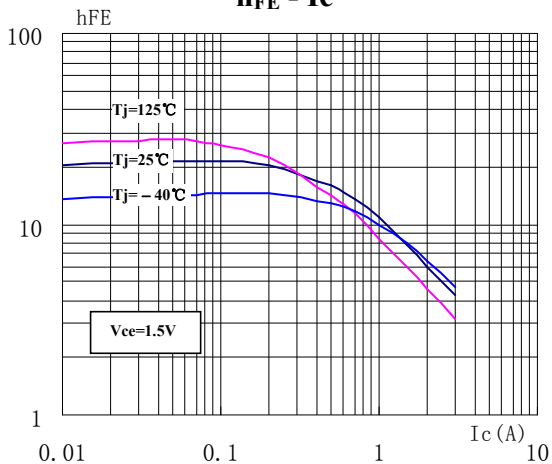
SOA (DC)



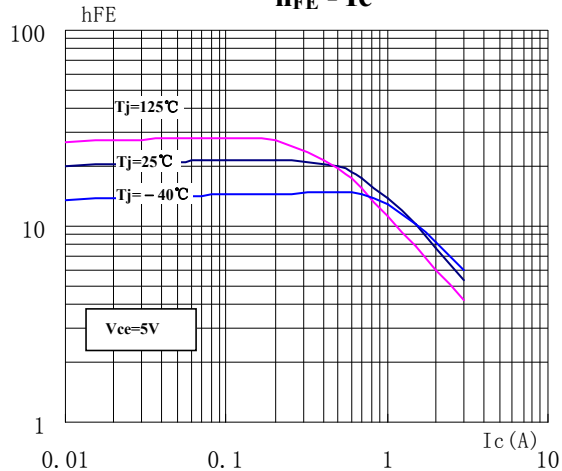
$P_c \propto T_j$



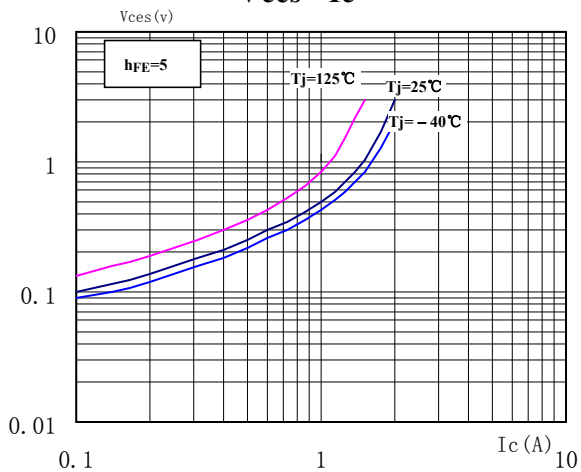
$h_{FE} - I_c$



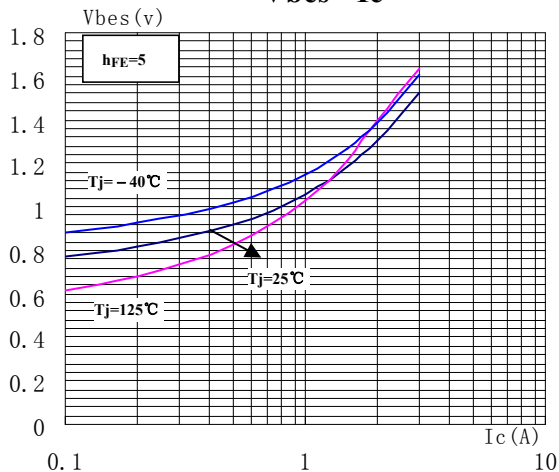
$h_{FE} - I_c$



$V_{ces} - I_c$



$V_{bes} - I_c$



TO-126D MECHANICAL DATA

UNIT: mm

SYMBOL	min	nom	max	SYMBOL	min	nom	max
A	2.25		2.80	L	2.90		3.8
B	1.15		1.42	L1	1.50		2.50
b	0.65		0.88	ϕP	2.90		3.60
c	0.36		0.60	$\phi P1$		5.25	
D	10.50		11.10	Q	3.50		4.30
E	7.20		7.80	Q1	0.90		1.50
e		2.29		R		0.50	

