

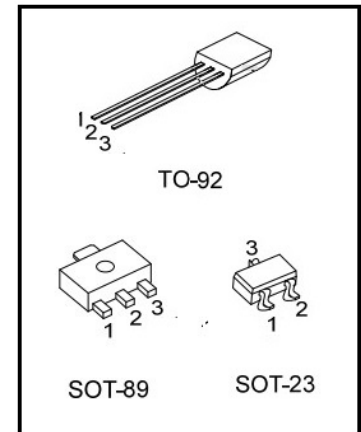
Applications

- energy-saving lamps
- fluorescent lamp electronic ballasts
- other switches and oscillating circuits

Package: TO-92/ SOT-89/SOT-23

Maximum Ratings ($T_a = 25^\circ$)

Parameter	Symbol	Rating	Unit
Collector-base voltage	BV_{CBO}	700	V
Collector-emitter voltage	BV_{CEO}	480	V
Emitter-base voltage	BV_{EBO}	9	V
Collector current	I_{CM}	200	mA
Collector Power Dissipation	P_C	TO-92	625
		SOT-89	500
		SOT-23	300
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	$-55 \sim +150$	$^\circ\text{C}$



Pin Assignment			
Package	1	2	3
TO-92	E	C	B
SOT-23	B	E	C
SOT-89	B	C	E

Electrical Characteristics ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=0.1\text{mA}$, $I_E=0$	700			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=1\text{mA}$, $I_B=0$	480			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=0.1\text{mA}$, $I_C=0$	9			V
collector-base cut-off current	I_{CBO}	$V_{CB}=600\text{V}$, $I_E=0$			1	μA
collector-emitter cut-off current	I_{CEO}	$V_{CE}=480\text{V}$, $I_B=0$			10	μA
emitter-base cut-off current	I_{EBO}	$V_{EB}=9\text{V}$, $I_C=0$			1	μA
DC current gain	H_{FE}	$V_{CE}=10\text{V}$, $I_C=20\text{mA}$	15		40	
collector-emitter saturation voltage	$V_{CE(SAT)}$	$I_C=100\text{mA}$, $I_B=20\text{mA}$			0.5	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=100\text{mA}$, $I_B=20\text{mA}$			1.2	V
Storage Time	T_S	$I_C=50\text{mA}$	2		3	μs
Transition frequency	f_T	$V_{CE}=10\text{V}$, $I_C=20\text{mA}$	5			MHz

Classification of H_{FE}

Rank	B	C	D	E	F
Range	15-20	20-25	25-30	30-35	35-40