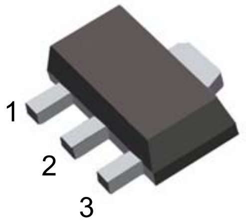
TRANSISTOR (NPN)

SOT-89

1. BASE
2. COLLECTOR
3. EMITTER



FEATURES

Low voltage

MAXIMUM RATINGS (T_A=25℃ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	30	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	1.5	A
P_C	Collector Power Dissipation	0.5	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55-150	℃

ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

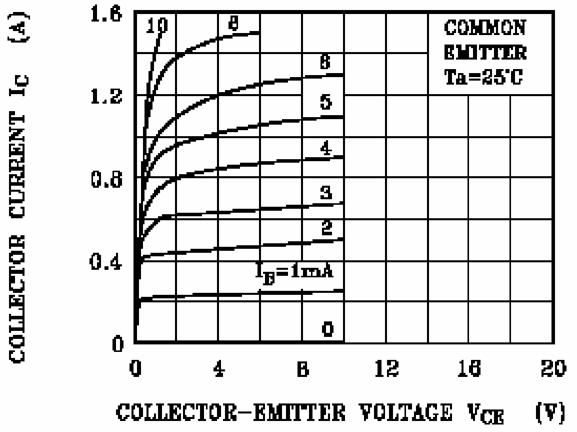
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=1mA,I_E=0	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=10mA,I_B=0	30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=1mA,I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=30V,I_E=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=5V,I_C=0			0.1	μA
DC current gain	h_{FE}	V_{CE}=2V,I_C=0.5A	100		320	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=1.5A,I_B=30mA			2	V
Base-emitter voltage	V_{BE}	V_{CE}=2V,I_C=0.5A			1	V
Transition frequency	f_T	V_{CE}=2V,I_C=500mA		120		MHz
Collector output capacitance	C_{ob}	V_{CB}=10V,I_E=0,f=1MHz			40	pF

CLASSIFICATION OF $h_{FE(1)}$

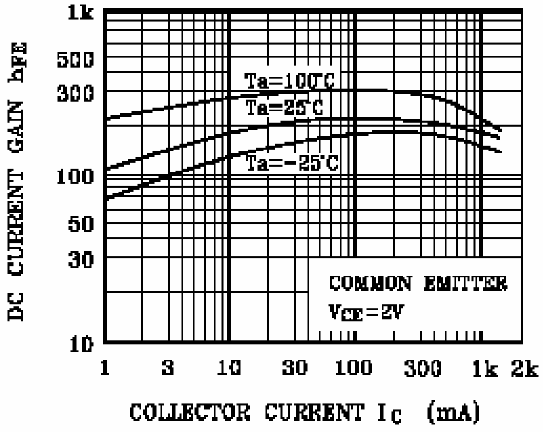
Rank	O	Y
Range	100-200	160-320
Marking	GO	GY

Typical Characteristics

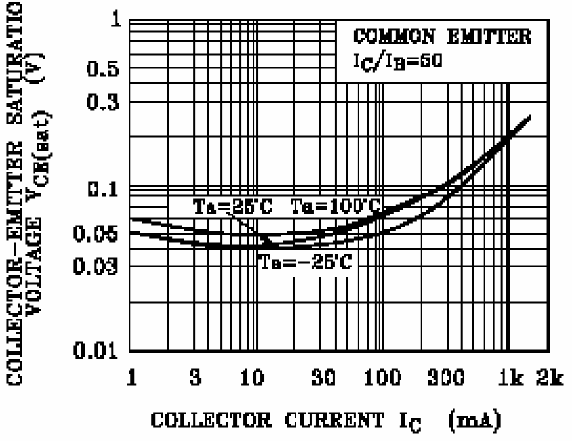
I_C – V_{CE}



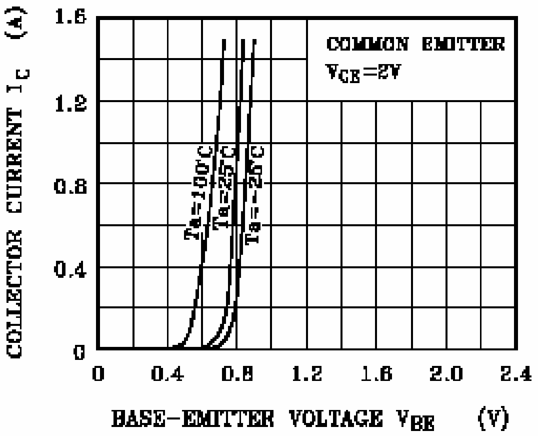
h_{FE} – I_C



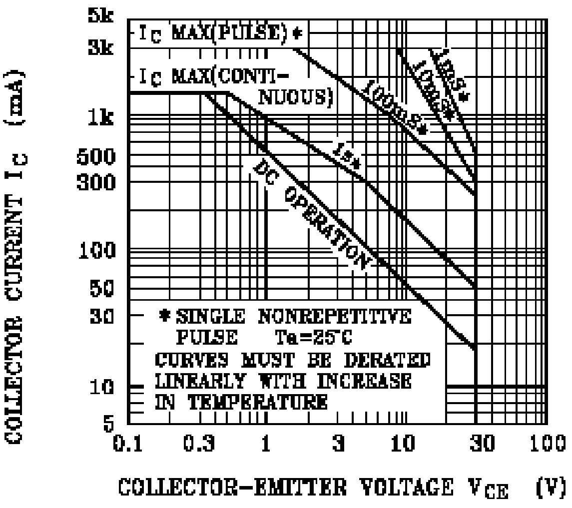
$V_{CE(sat)}$ – I_C



I_C – V_{BE}



SAFE OPERATING AREA



P_C – Ta