

isc Silicon NPN Transistor

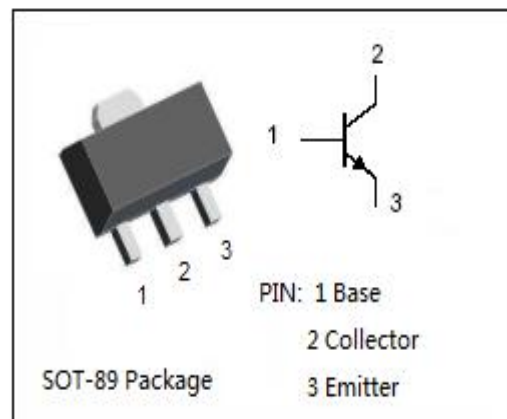
2SC1815

DESCRIPTION

- With SOT-89 packaging
- High Voltage and High Current
V_{ceo}=50V(Min.), I_c=150mA(Max)
- Excellent hFE Linearity
- Low Noise
- Complement to Type 2SA1015(O,Y,GR class)

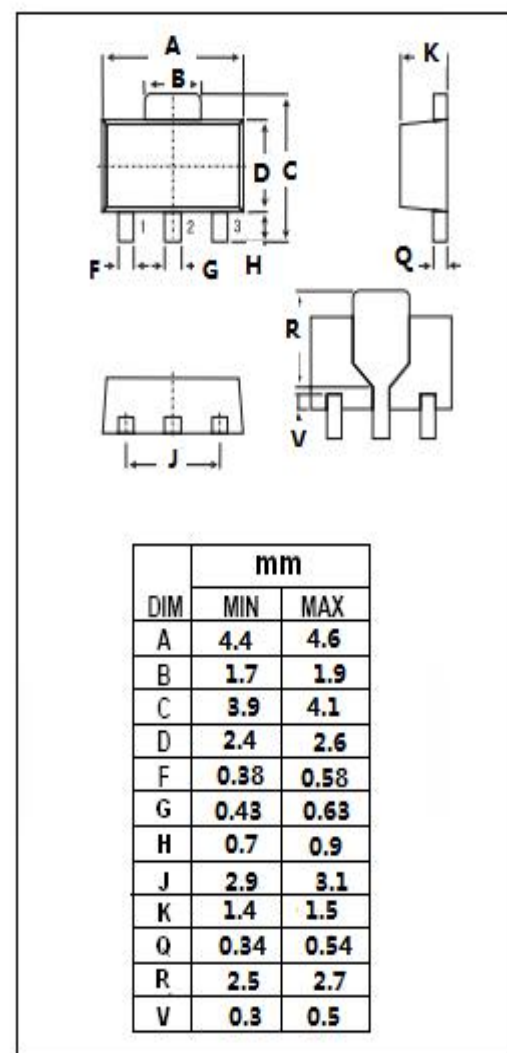
APPLICATIONS

- Audio frequency general purpose amplifier Applications
- Driver stage amplifier applications.



ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CB0}	Collector-Base Voltage	60	V
V _{CEO}	Collector-Emitter Voltage	50	V
V _{EB0}	Emitter-Base Voltage	5	V
I _c	Collector Current	150	mA
I _b	Base Current	50	mA
P _c	Collector Power Dissipation @T _c =25°C	400	mW
T _j	Junction Temperature	125	°C
T _{stg}	Storage Temperature Range	-55~125	°C



isc Silicon NPN Transistor**2SC1815****ELECTRICAL CHARACTERISTICS** $T_c=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=100\text{mA}; I_B=10\text{mA}$			0.25	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=100\text{mA}; I_B=10\text{mA}$			1.0	V
I_{CBO}	Emitter Cutoff Current	$V_{CB}=60\text{V}; I_E=0$			0.1	μA
I_{EBO}	Collector Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			0.1	μA
$h_{FE(1)}$	DC Current Gain	$I_C=2\text{mA}; V_{CE}=6\text{V}$	70		700	
$h_{FE(2)}$	DC Current Gain	$I_C=150\text{mA}; V_{CE}=6\text{V}$	25			
f_T	Current-Gain—Bandwidth Product	$I_C=1\text{mA}; V_{CE}=10\text{V};$	80			MHz
C_{ob}	Collector Output Capacitance	$V_{CB}=10\text{V}; I_E=0; f=1\text{MHz}$			3.5	pF
$R_{bb'}$	Base Intrinsic Resistance	$V_{CE}=10\text{V}; I_E=-1\text{mA}; f=30\text{MHz}$		50		Ω
NF	Noise Figure	$V_{CE}=6\text{V}; I_C=0.1\text{mA}; f=1\text{KHz},$ $R_G=10\text{K}\Omega$			10	dB

◆ **$h_{FE(1)}$ Classifications**

O	Y	GR	BL
70-140	120-400	200-400	350-700