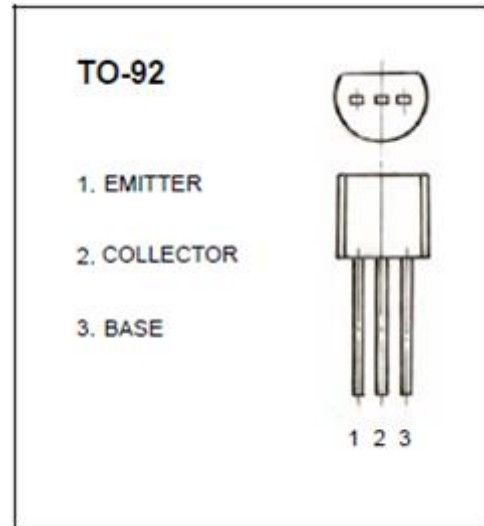


**isc Silicon NPN Transistor**
**2SC1815**
**DESCRIPTION**

- High Voltage and High Current  
 $V_{ce0}=50V(\text{Min.})$ ,  $I_c=150mA(\text{Max})$
- Excellent hFE Linearity
- Low Noise
- Complement to Type 2SA1015(O,Y,GR class)
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

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


**ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	50	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_c$	Collector Curren	150	mA
$I_B$	Base Curren	50	mA
$P_c$	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	400	mW
$T_J$	Junction Temperature	125	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~125	$^\circ\text{C}$

**isc Silicon NPN Transistor**
**2SC1815**
**ELECTRICAL CHARACTERISTICS**

 T<sub>c</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 100mA ; I <sub>B</sub> = 10mA			0.25	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 100mA ; I <sub>B</sub> = 10mA			1.0	V
I <sub>CBO</sub>	Emitter Cutoff Current	V <sub>CB</sub> = 60V; I <sub>E</sub> = 0			0.1	μ A
I <sub>EBO</sub>	Collector Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			0.1	μ A
h <sub>FE(1)</sub>	DC Current Gain	I <sub>C</sub> = 2mA ; V <sub>CE</sub> = 6V	70		700	
h <sub>FE(2)</sub>	DC Current Gain	I <sub>C</sub> = 150mA ; V <sub>CE</sub> = 6V	25			
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 1mA; V <sub>CE</sub> = 10V;	80			MHz
C <sub>ob</sub>	Collector Output Capacitance	V <sub>CB</sub> =10V; I <sub>E</sub> =0; f=1MHz			3.5	pF
R <sub>bb'</sub>	Base Intrinsic Resistance	V <sub>CE</sub> =10V, I <sub>E</sub> =-1mA; f=30MHz		50		Ω
NF	Noise Figure	V <sub>CE</sub> =6V, I <sub>C</sub> =0.1mA; f=1KHz, R <sub>G</sub> =10K Ω			10	dB

**◆ h<sub>FE(1)</sub> Classifications**

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

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