



Micro Commercial Components



Micro Commercial Components  
20736 Marilla Street Chatsworth  
CA 91311  
Phone: (818) 701-4933  
Fax: (818) 701-4939

## Features

- Halogen free available upon request by adding suffix "-HF"
- 2SC1815 is NPN Silicon Epitaxial Transistor Designed for RF, AF Amplifier and General Purpose Applications.
- Capable of 0.4Watts of Power Dissipation.
- Collector-current 0.15A
- Collector-base Voltage 60V
- Marking : C1815
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Lead Free Finish/Rohs Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Operating and storage junction temperature range:-55°C to +125°C

### Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
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#### OFF CHARACTERISTICS

$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ( $I_C=0.1mA, I_B=0$ )	50		Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ( $I_C=100\mu A, I_E=0$ )	60		Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ( $I_E=100\mu A, I_C=0$ )	5		Vdc
$I_{CBO}$	Collector Cutoff Current ( $V_{CB}=60Vdc, I_E=0A$ )		0.1	$\mu A$
$I_{CEO}$	Collector Cutoff Current ( $V_{CB}=50Vdc, I_E=0A$ )		0.1	$\mu A$
$I_{EBO}$	Emitter Cutoff Current ( $V_{EB}=5.0Vdc, I_C=0A$ )		0.1	$\mu A$

#### ON CHARACTERISTICS

$h_{FE(1)}$	DC Current Gain* ( $I_C=2.0mA, V_{CE}=6.0Vdc$ )	70	700	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ( $I_C=100mA, I_B=10mA$ )		0.25	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ( $I_C=100mA, I_B=10mA$ )		1.0	Vdc
$V_{BE}$	Base-Emitter Voltage ( $I_E=310mA$ )	---	1.45	Vdc

#### SMALL-SIGNAL CHARACTERISTICS

$f_T$	Transistor Frequency ( $I_C=1.0mA, V_{CE}=10Vdc, f=30MHz$ )	80		MHz
$C_{OB}$	Collector Output Capacitance ( $V_{CB}=10Vdc, I_E=0, f=1MHz$ )	---	3.5	pF
NF	Noise Figure ( $V_{CE}=6Vdc, I_C=0.1mA, f=1KHz, R_g=10K$ )	---	10	dB

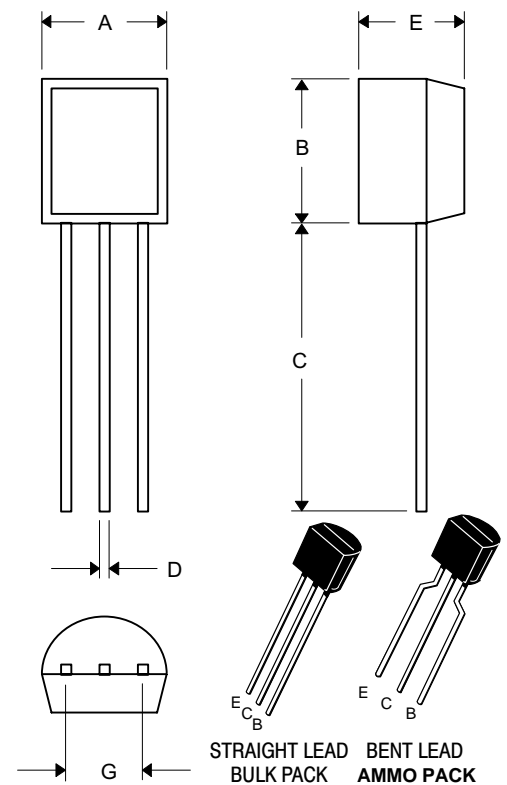
#### CLASSIFICATION OF $h_{FE(1)}$

Rank	O	Y	GR	BL
Range	70-140	120-240	200-400	350-700

**2SC1815-O**  
**2SC1815-Y**  
**2SC1815-GR**  
**2SC1815-BL**

## NPN Silicon Epitaxial Transistor

### TO-92



STRAIGHT LEAD BULK PACK  
BENT LEAD AMMO PACK

#### DIMENSIONS

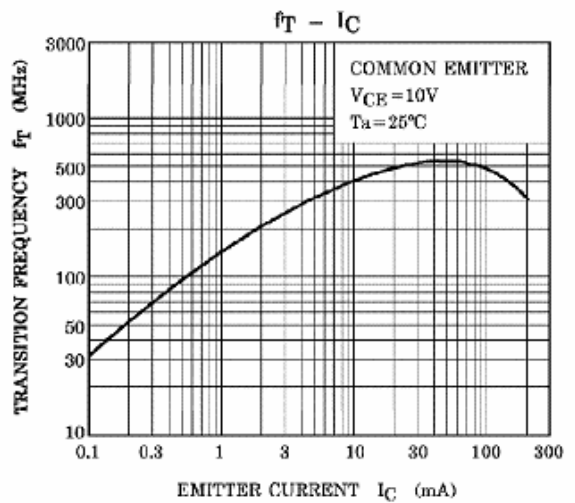
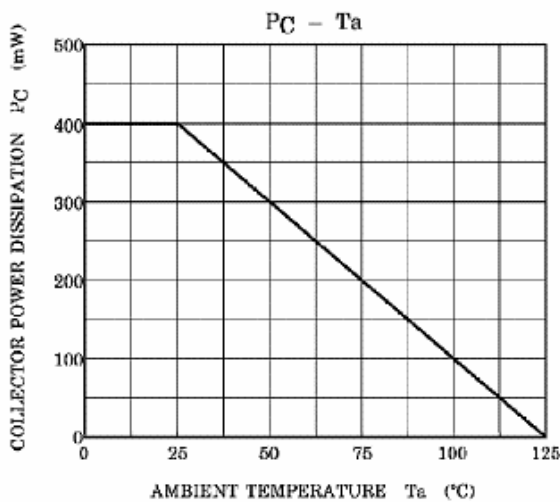
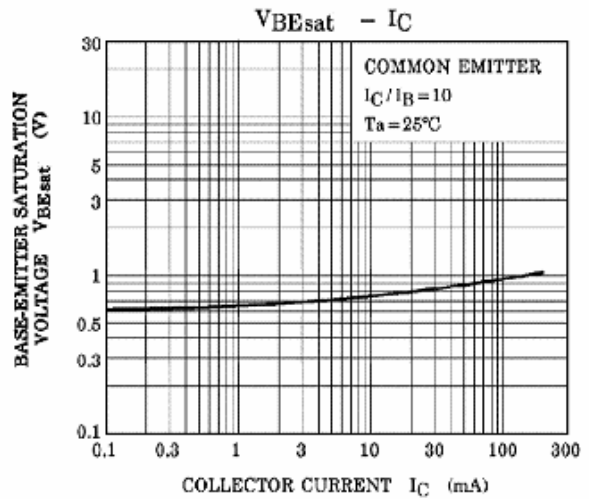
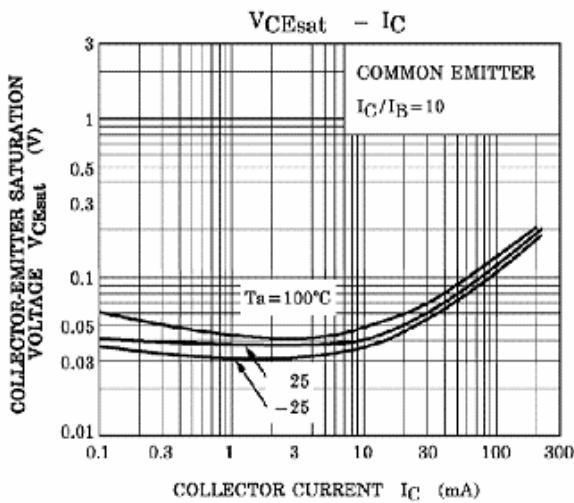
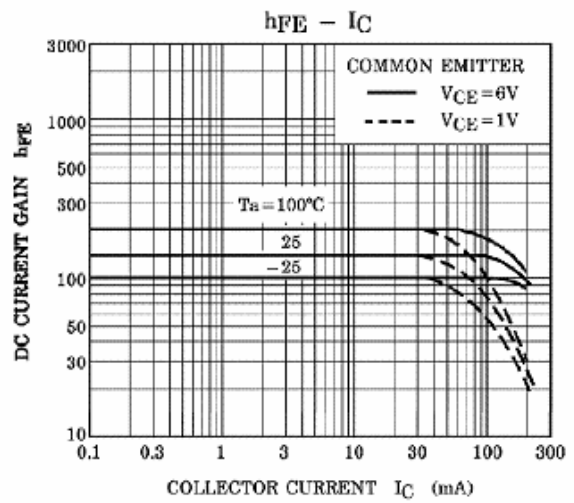
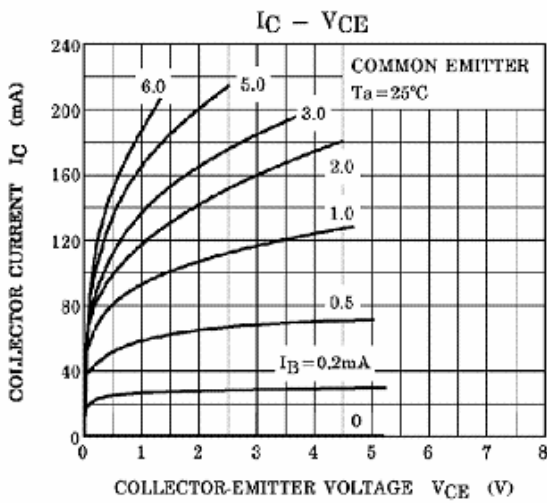
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.175	.185	4.45	4.70	
B	.175	.185	4.45	4.70	
C	.500	---	12.70	---	
D	.016	.020	0.41	0.63	
E	.135	.145	3.43	3.68	
G	.095	.105	2.42	2.67	Straight Lead Bent Lead
	.173	.220	4.40	5.60	

\* For ammo packing detailed specification, click here to visit our website of product packaging for details.

[www.mccsemi.com](http://www.mccsemi.com)

2SC1815

Typical Characteristics





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### Ordering Information :

Device	Packing
Part Number-AP	Ammo Packing: 20Kpcs/Carton
Part Number-BP	Bulk: 100Kpcs/Carton

Note : Adding "-HF" suffix for halogen free, eg. Part Number-AP-HF

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