

**WBFBP-03B Plastic-Encapsulate Transistors****2SC2715M TRANSISTOR****DESCRIPTION**

NPN Epitaxial planar Silicon Transistor

FEATURESHigh power gain: $G_{pe}=27\text{dB}(f=10.7\text{MHz})$

Recommended for FM IF, OSC Stage and AM CONV. IF Stage

APPLICATION

High Frequency amplifier

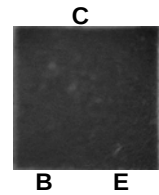
For portable equipment: (i.e. Mobile phone, MP3, MD, CD-ROM, DVD-ROM, Note book PC, etc.)

WBFBP-03B

(1.2×1.2×0.5)

unit: mm

TOP

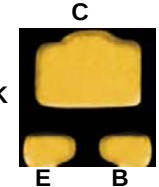
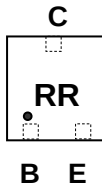


1. BASE

2. EMITTER

3. COLLECTOR

BACK

**MARKING: RR, RO, RY****AXIMUM RATINGS* $T_A=25^\circ\text{C}$ unless otherwise noted**

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	35	V
V_{CEO}	Collector-Emitter Voltage	30	V
V_{EBO}	Emitter-Base Voltage	4	V
I_C	Collector Current -Continuous	50	mA
P_C	Collector Dissipation	150	mW
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55-150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^\circ\text{C}$ unless otherwise specified)

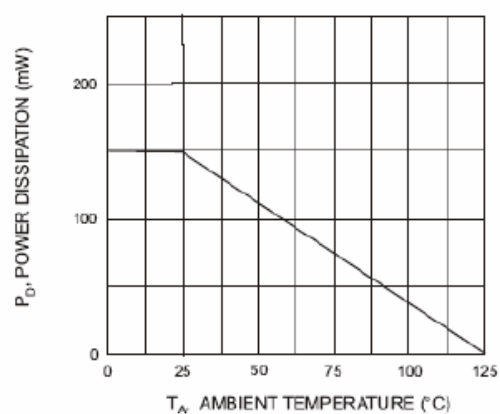
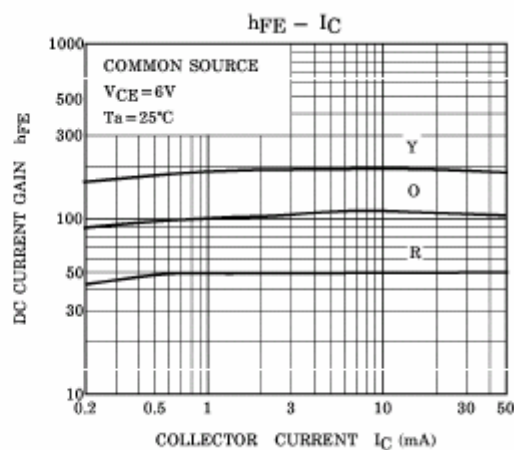
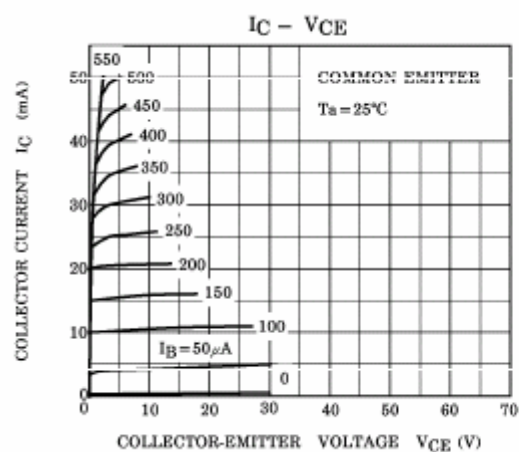
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}, I_E=0$	35			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0$	4			V
Collector cut-off current	I_{CBO}	$V_{CB}=35\text{V}, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=4\text{V}, I_C=0$			0.1	μA
DC current gain	h_{FE}	$V_{CE}=12\text{V}, I_C=2\text{mA}$	40		240	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10\text{mA}, I_B=1\text{mA}$			0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=10\text{mA}, I_B=1\text{mA}$			1	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=1\text{mA}$	100		400	MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$			3.2	pF
Collector- Base time constant	$C_{c.rbb'}$	$V_{CE}=10\text{V}, I_C=1\text{mA}, f=30\text{MHz}$			50	ps
Power Gain	G_p	$V_{CE}=6\text{V}, I_C=1\text{mA}, f=10.7\text{MHz}$	27		33	dB

CLASSIFICATION OF h_{FE}

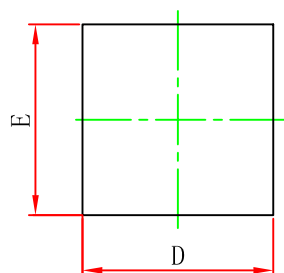
Rank	R	O	Y
Range	40-80	70-140	120-240
Marking	RR	RO	RY

Typical Characteristics

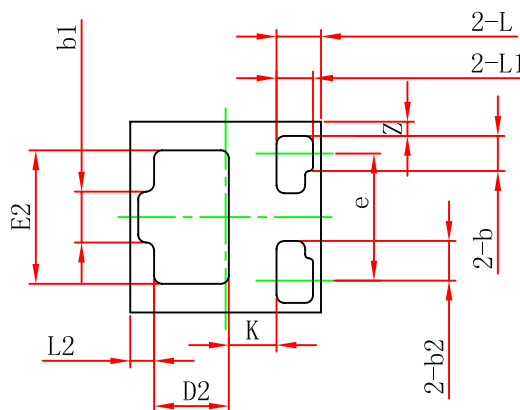
2SC2715M



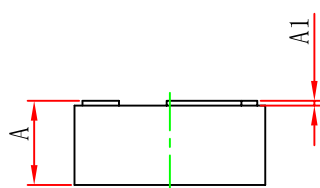
WBFBP-03B(1.2×1.2×0.5) PACKAGE OUTLINE DIMENSIONS



TOP VIEW

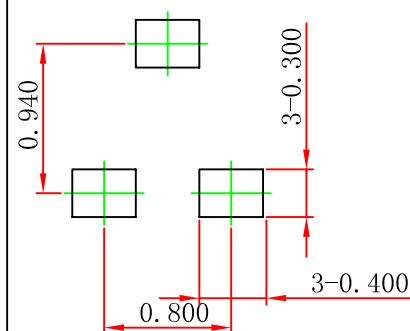


BOTTOM VIEW



SIDE VIEW

(LAND PATTERN RECOMMENDATION)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.450	0.550	0.018	0.022
A1	0.010	0.090	0.000	0.004
b	0.170	0.270	0.007	0.011
b1	0.270	0.370	0.011	0.015
b2	0.250 REF.		0.010 REF.	
D	1.150	1.250	0.045	0.049
E	1.150	1.250	0.045	0.049
D2	0.470 REF.		0.002 REF.	
E2	0.810 REF.		0.032 REF.	
e	0.800 TYP.		0.032 TYP.	
L	0.280 REF.		0.011 REF.	
L1	0.230 REF.		0.009 REF.	
L2	0.150 REF.		0.006 REF.	
k	0.300 REF.		0.012 REF.	
z	0.090 REF.		0.004 REF.	