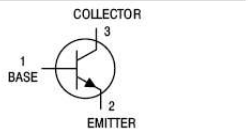
NPN Epitaxial Planar Silicon Transistor 2SC4115

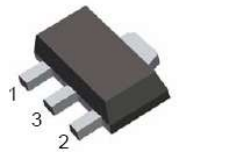
FEATURES

Lead-free

- Low VCE(sat).

  VCE(sat) = 0.2V (Typ.)(IC / IB = 2A / 0.1A)
- Excellent current gain characteristics.
- Complements to 2SA1585.





SOT-89

ORDERING INFORMATION

Type No.	Marking	Package Code
2SC4115	4115G/4115R/4115S	SOT-89

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	**Parameter**	**Value**	**Units**
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	20	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	3.0	A
P_C	Collector Dissipation	500	mW
T_j,T_{stg}	Junction and Storage Temperature	-55 to +150	℃

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ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Parameter	**Symbol**	**Test conditions**	**MIN**	**TYP**	**MAX**	**UNIT**
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=50uA,I_E=0	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA,I_B=0	20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=50uA,I_C=0	6			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=0.1A	120		560	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=2A, I_B=0.1A			0.5	V
Transition frequency	f_T	V_{CE}=2V,I_c=0.5A F=100MHZ	200	290		MHz

CLASSIFICATION OF h_{FE}

Range	120-270	180-390	270-560
Rank	Q	R	S

NPN Epitaxial Planar Silicon Transistor **2SC4115**

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

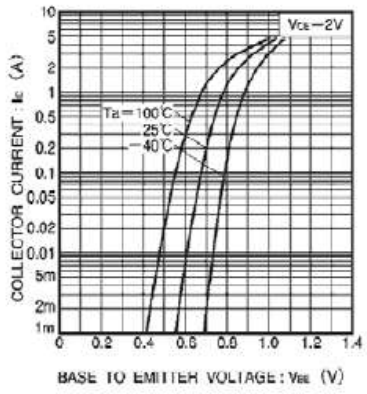

Fig.1 Grounded emitter propagation characteristics

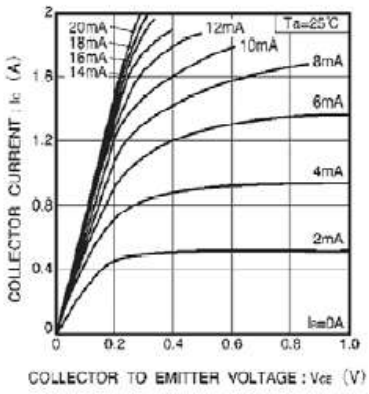

Fig.2 Grounded emitter output characteristics (Ⅰ)

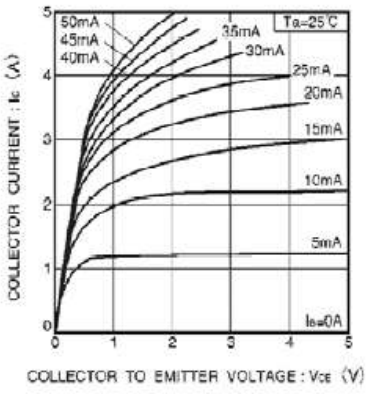

Fig.3 Grounded emitter output characteristics (Ⅱ)

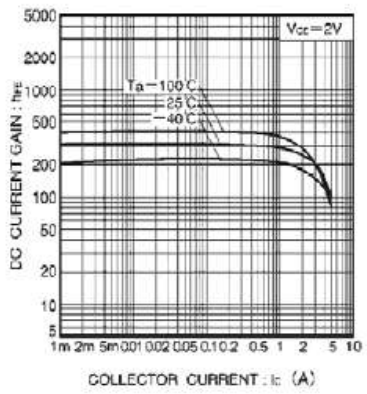

Fig.4 DC current gain vs. collector current

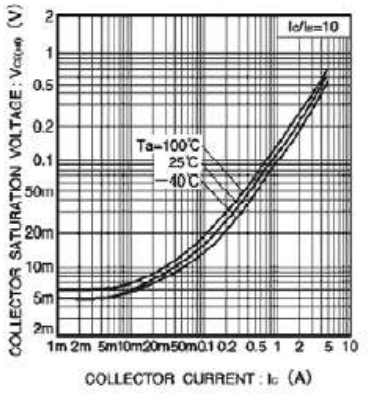

Fig.5 Collector-emitter saturation voltage vs. collector current (Ⅰ)

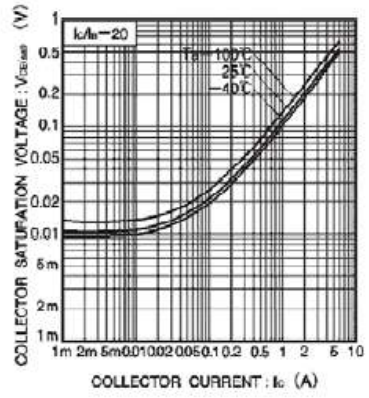

Fig.6 Collector-emitter saturation voltage vs. collector current (Ⅱ)

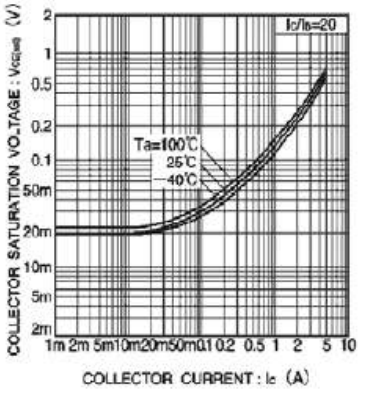

Fig.7 Collector-emitter saturation voltage vs. collector current (Ⅲ)

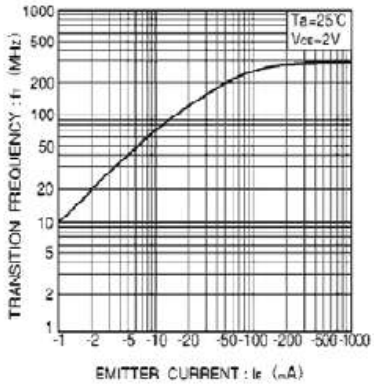

Fig.8 Gain bandwidth product vs. emitter current

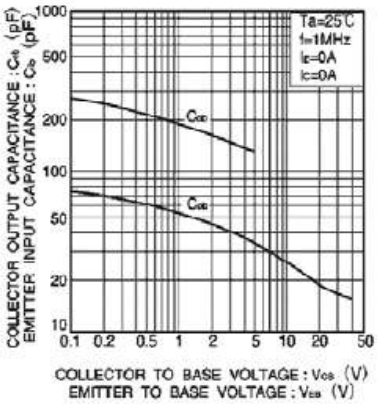

Fig.9 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

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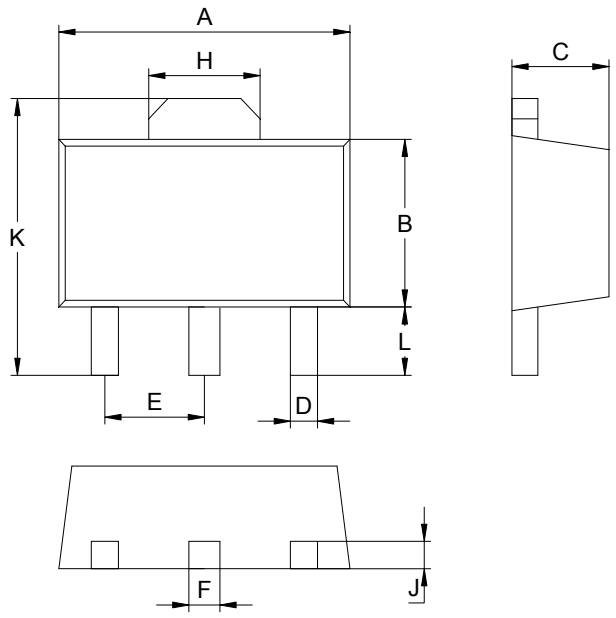
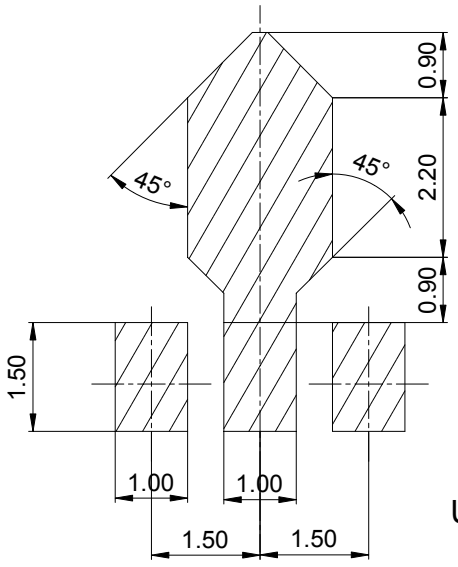
PACKAGE OUTLINE

Plastic surface mounted package SOT-89



SOT-89		
Dim	Min	Max
A	4.30	4.70
B	2.25	2.65
C	1.50 Typical	
D	0.40 Typical	
E	1.40	1.60
F	0.48 Typical	
H	1.60	1.80
J	0.40 Typical	
L	0.90	1.10
K	3.95	4.35
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit:mm

PACKAGE INFORMATION

Device	Package	Shipping
2SC4115	SOT-89	1000/Tape&Reel