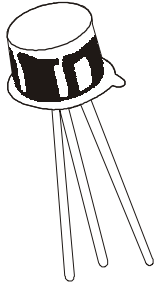


NPN SILICON PLANAR EPITAXIAL TRANSISTORS

BC107, A, B, C
BC108, A, B, C
BC109, A, B, C
TO-18



ABSOLUTE MAXIMUM RATINGS

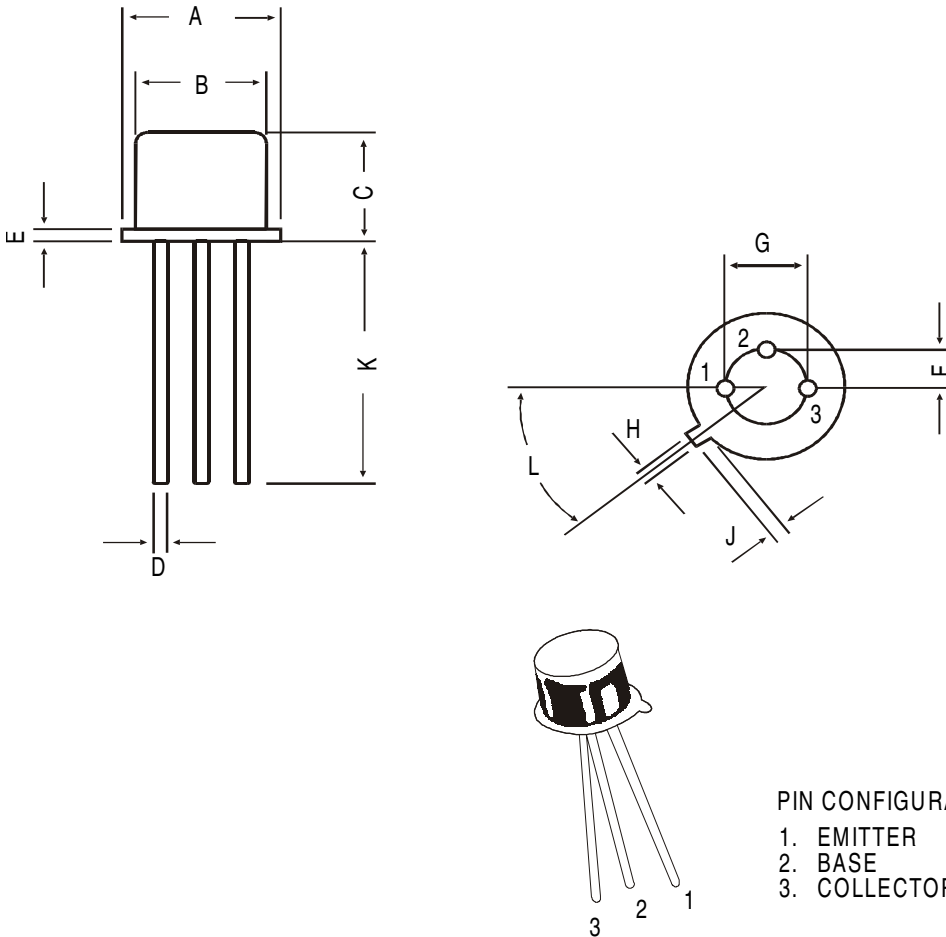
DESCRIPTION	SYMBOL	BC107	BC108	BC109	UNIT
Collector -Emitter Voltage	VCEO	45	25	25	V
Collector -Base Voltage	VCBO	50	30	30	V
Emitter -Base Voltage	VEBO	6.0	5.0	5.0	V
Collector Current Continuous	IC		0.2		A
Power Dissipation@ Ta=25 degC	PD		0.6		W
Derate Above 25 deg C			2.28		mW/deg C
Power Dissipation@ Tc=25 degC	PD		1.0		W
Derate Above 25 deg C			6.67		mW/deg C
Operating And Storage Junction Temperature Range	Tj, Tstg	-65 to +200			deg C
THERMAL RESISTANCE					
Junction to Case	Rth(j-c)	175			deg C/W

ELECTRICAL CHARACTERISTICS (Ta=25 deg C Unless Otherwise Specified)

DESCRIPTION	SYMBOL	TEST CONDITION		MIN	MAX	UNIT
Collector -Emitter Voltage	VCEO	IC=2mA, IB=0	BC107	45	-	V
			BC108/109	25	-	V
Emitter-Base Voltage	VEBO	IE=10uA, IC=0	BC107	6.0	-	V
			BC108/109	5.0	-	V
Collector-Cut off Current	ICBO	VCB=45V, IE=0 VCB=25V, IE=0 Tamb=125 deg C	BC107	-	15	nA
			BC108/109	-	15	nA
			BC107	-	4.0	uA
			BC108/109	-	4.0	uA
DC Current	hFE	IC=10uA, VCE=5V	B Group	40	-	
			C Group	100	-	
			BC107	110	450	
			BC108	110	800	
			BC109	200	800	
			A Group	110	220	
			B Group	200	450	
C Group	420	800				
Base Emitter Saturation Voltage	VBE(Sat)	IC=10mA, IB=0.5mA IC=100mA, IB=5mA		-	0.83	V
				-	1.05	V
Collector Emitter Saturation Voltage	VCE(Sat)	IC=10mA, IB=0.5mA IC=100mA, IB=5mA		-	0.25	V
				-	0.60	V
Base Emitter on Voltage	VBE(on)	IC=2mA, VCE=5V IC=10mA, VCE=5V		0.55	0.70	V
				-	0.77	V

ELECTRICAL CHARACTERISTICS (Ta=25 deg C Unless Otherwise Specified)				BC107XX		
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNIT	
Collector Knee Voltage	VCE (K)	IC=10mA, IB=The Value for Which IC=11mA, @ VCE=1V	-	0.60	V	
Transition Frequency	ft	VCE=5V, IC=10mA, f=100MHz	150	-	MHZ	
Noise Figure	NF	VCE=5V, IC=0.2mA				
		Rg=2kohms,				
		F=30Hz to 15 KHz	BC109	-	4.0	dB
		F=1kHz, B=200Hz	BC109	-	4.0	dB
Output Capacitance	Cobo	VCB=10V, f=1MHz	BC107/108	-	10	dB
				-	4.5	pF
Small Signal Current Gain	hfe	ALL f=1kHz IC=2mA, VCE=5V	BC107	125	500	
			BC108	125	900	
			BC109	240	900	
			A Group	125	260	
			B Group	240	500	
			C Group	450	900	
Input Impedance	hie	IC=2mA, VCE=5V	A Group	1.6	4.5	Kohms
			B Group	3.2	8.5	Kohms
			C Group	6.0	15	Kohms
Output Admittance	hoe	IC=2mA, VCE=5V	A Group	-	30	umhos
			B Group	-	60	umhos
			C Group	-	110	umhos

TO-18 Metal Can Package



All dimensions in mm.

DIM	MIN	MAX
A	5.24	5.84
B	4.52	4.97
C	4.31	5.33
D	0.40	0.53
E	—	0.76
F	—	1.27
G	—	2.97
H	0.91	1.17
J	0.71	1.21
K	12.70	—
L	45 DEG	

Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-18	1K/polybag	350 gm/1K pcs	3" x 7.5" x 7.5"	5.0K	17" x 15" x 13.5"	80.0K	34 kgs

Disclaimer

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