

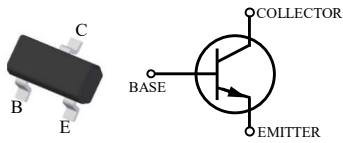


2SC4097QWH / 2SC4097RWH

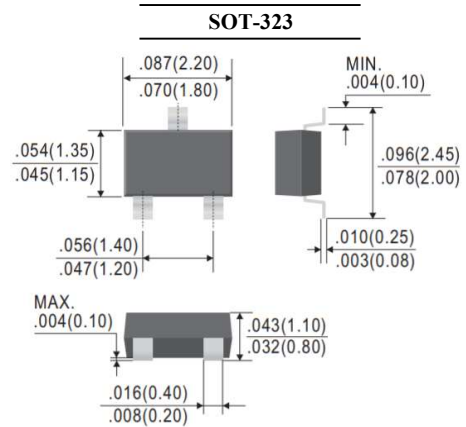
NPN TRANSISTORS

FEATURES

- For high voltage amplifier applications
- Suffix "H" indicates Halogen-free parts, ex. 2SC4097QWH



B	Base
C	Collector
E	Emitter



Dimensions in inch and (millimeter)

Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CB0}	40	V
Collector Emitter Voltage	V_{CE0}	32	V
Emitter Base Voltage	V_{EB0}	5	V
Collector Current	I_C	500	mA
Power Dissipation	P_D	200	mW
Thermal Resistance from Junction to Ambient (Note 1)	$R_{\theta JA}$	625	$^\circ\text{C}/\text{W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

Note :

1. Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Conditions	Symbol	Min.	TYP.	Max.	Unit
DC Current Gain	$V_{CE}=3\text{V}, I_C=10\text{mA}$	Q	120	-	270	-
		R	180	-	390	
Collector Base Cutoff Current	$V_{CB}=20\text{V}$	I_{CB0}	-	-	1	μA
Emitter Base Cutoff Current	$V_{EB}=4\text{V}$	I_{EB0}	-	-	1	μA
Collector Base Breakdown Voltage	$I_C=100\mu\text{A}$	$V_{(BR)CB0}$	40	-	-	V
Collector Emitter Breakdown Voltage	$I_C=1\text{mA}$	$V_{(BR)CE0}$	32	-	-	V
Emitter Base Breakdown Voltage	$I_E=100\mu\text{A}$	$V_{(BR)EB0}$	5	-	-	V
Collector Saturation Voltage	$I_C=500\text{mA}, I_B=50\text{mA}$	$V_{CE(sat)}$	-	-	0.6	V
Gain Bandwidth Product	$V_{CE}=5\text{V}, I_E=20\text{mA}, f=100\text{MHz}$	f_T	-	250	-	MHz
Collector Output Capacitance	$V_{CB}=10\text{V}, f=1\text{MHz}$	C_{ob}	-	6.5	-	pF



2SC4097QWH / 2SC4097RWH

NPN TRANSISTORS

RATINGS AND CHARACTERISTIC CURVES

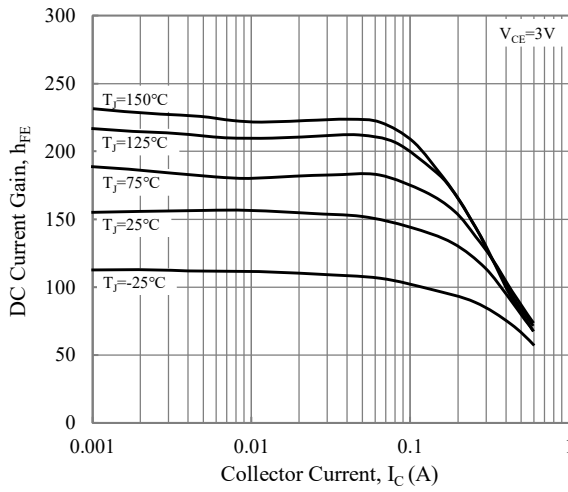


Fig. 1-Current Gain vs. Collector Current

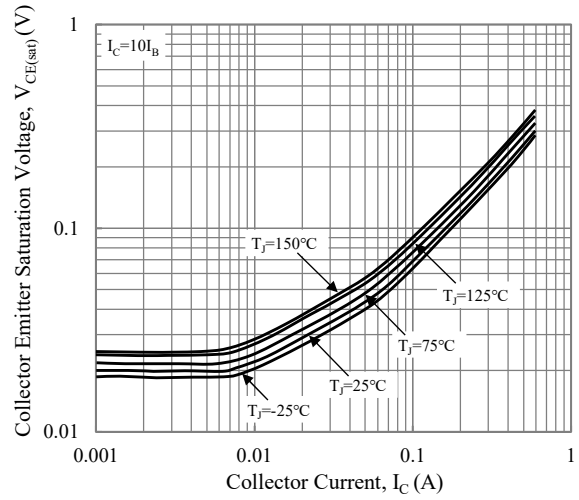


Fig. 2-Collector Emitter Saturation Voltage vs. Collector Current

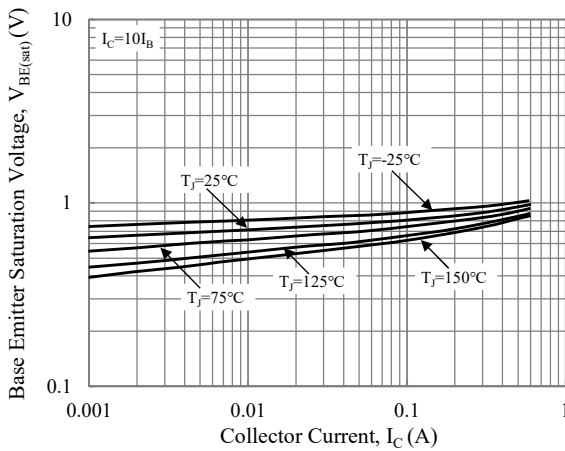


Fig. 3-Base Emitter Saturation Voltage vs. Collector Current

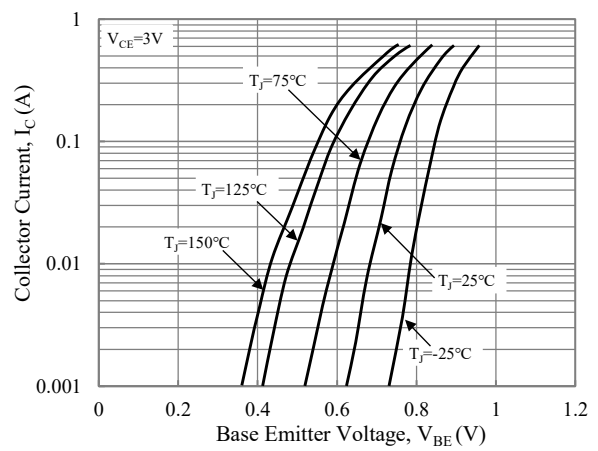


Fig. 4-Base Emitter Voltage vs. Collector Current

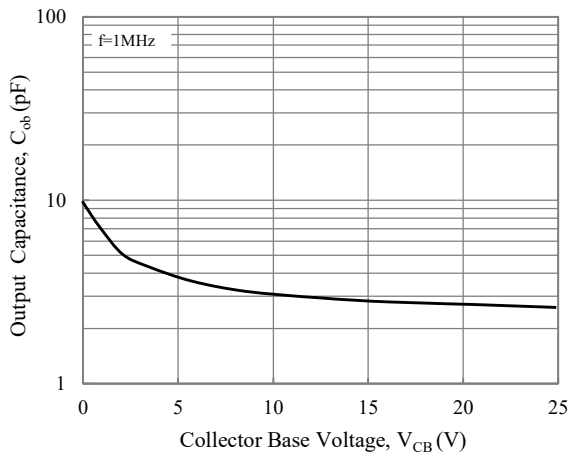


Fig. 5-Output Capacitance

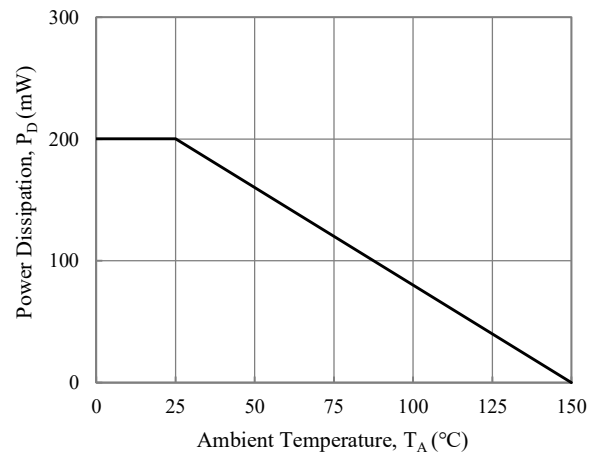


Fig. 6-Power Derating Curves



2SC4097QWH / 2SC4097RWH

NPN TRANSISTORS

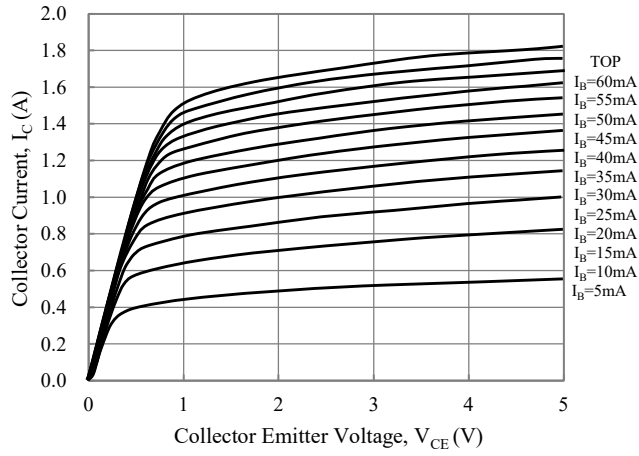


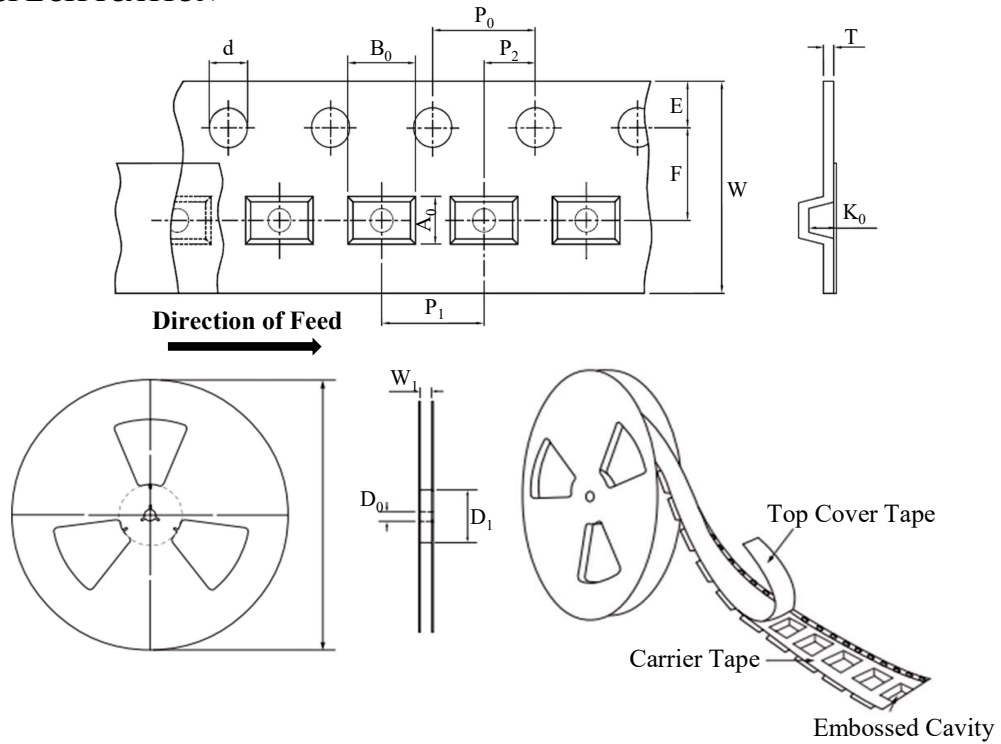
Fig. 7-Output Characteristics Curve



2SC4097QWH / 2SC4097RWH

NPN TRANSISTORS

TAPE & REEL SPECIFICATION



Item	Symbol	SOT-323
Carrier width	A_0	*
Carrier length	B_0	
Carrier depth	K_0	
Sprocket hole	d	1.50 ± 0.10
Reel outside diameter	D	178.00 ± 2.00
Feed hole width	D_0	13.00 ± 0.50
Reel inner diameter	D_1	MIN. 50.00
Sprocket hole position	E	1.75 ± 0.10
Punch hole position	F	3.50 ± 0.10
Sprocket hole pitch	P_0	4.00 ± 0.10
Punch hole pitch	P_1	4.00 ± 0.10
Embossment center	P_2	2.00 ± 0.10
Overall tape thickness	T	0.20 ± 0.05
Tape width	W	8.00 ± 0.20
Reel width	W1	MAX. 14.50

Note *: A_0 , B_0 , and K_0 are determined by component size. The clearance between the components and the cavity must be within 0.05 mm min. to 0.5 mm max.

ORDER INFORMATION

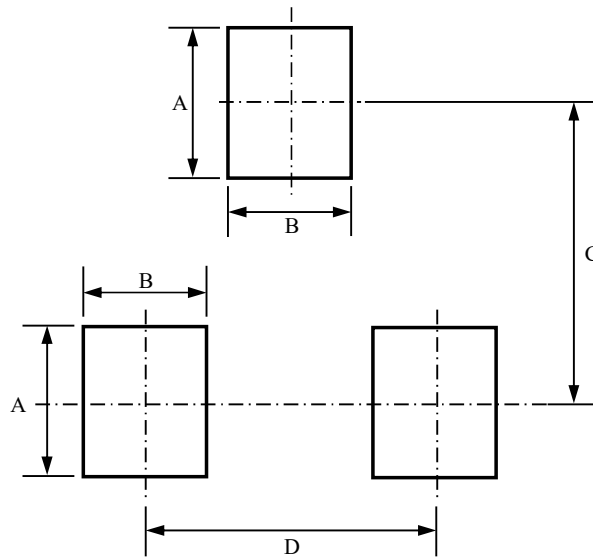
Part Number	Marking Code	Reel Size	Quantity
2SC4097QWH	D9C	7"	3,000
2SC4097RWH	D9D		



2SC4097QWH / 2SC4097RWH

NPN TRANSISTORS

SUGGESTED SOLDER PAD LAYOUT



Unit :mm

PACKAGE	A	B	C	D
SOT-323	0.80	0.80	1.60	1.30