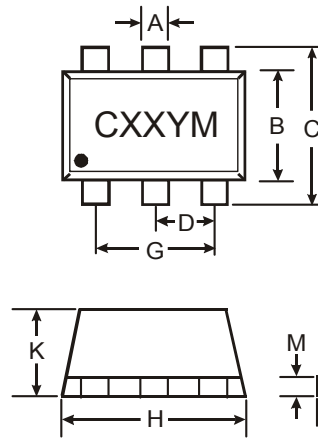


Features

- Epitaxial Planar Die Construction
- Built-In Biasing Resistors
- Lead Free By Design/RoHS Compliant (Note 3)
- "Green" Device (Note 4 and 5)

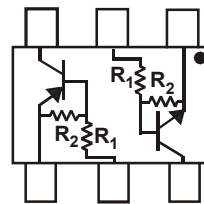
Mechanical Data

- Case: SOT-563
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish - Matte Tin annealed over Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Weight: 0.005 grams (approximate)

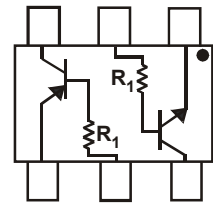


SOT-563			
Dim	Min	Max	Typ
A	0.15	0.30	0.25
B	1.10	1.25	1.20
C	1.55	1.70	1.60
D	0.50		
G	0.90	1.10	1.00
H	1.50	1.70	1.60
K	0.56	0.60	0.60
L	0.15	0.25	0.20
M	0.10	0.18	0.11
All Dimensions in mm			

P/N	R1 (NOM)	R2 (NOM)	MARKING
DCX122LH	0.22KΩ	10KΩ	C81
DCX142JH	0.47KΩ	10KΩ	C82
DCX122TH	0.22KΩ	OPEN	C83
DCX142TH	0.47KΩ	OPEN	C84



R₁, R₂



R₁ Only

SCHEMATIC DIAGRAM, TOP VIEW

Maximum Ratings NPN Section

@T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Supply Voltage	V _{CC}	50	V
Input Voltage	DCX122LH DCX142JH	V _{IN}	-5 to +6 -5 to +6
Input Voltage	DCX122TH DCX142TH	V _{EBO (MAX)}	5
Output Current	All	I _C	100
Power Dissipation	(Note 1, 2)	P _d	150
Thermal Resistance, Junction to Ambient Air	(Note 1)	R _{θJA}	833
Operating and Storage Temperature Range	T _j , T _{STG}	-55 to +150	°C

- Notes:
1. Mounted on FR4 PC Board with recommended pad layout at <http://www.diodes.com/datasheets/ap02001.pdf>.
 2. NPN Section, PNP Section, or maximum combined.
 3. No purposefully added lead.
 4. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
 5. Product manufactured with Date Code UO (week 40, 2007) and newer are built with Green Molding Compound. Product manufactured prior to Date Code UO are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.

Maximum Ratings PNP Section @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Supply Voltage	V _{CC}	-50	V
Input Voltage	DCX122LH DCX142JH	V _{IN}	+5 to -6 +5 to -6
Input Voltage	DCX122TH DCX142TH	V _{EBO (MAX)}	-5
Output Current	All	I _C	-100
Power Dissipation	(Note 1, 2)	P _d	150
Thermal Resistance, Junction to Ambient Air	(Note 1)	R _{θJA}	833
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

Electrical Characteristics NPN Section @T_A = 25°C unless otherwise specified **R1, R2 Types**

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition	
Input Voltage	DCX122LH DCX142JH	V _{I(off)}	0.3	—	—	V	V _{CC} = 5V, I _O = 100μA
	DCX122LH DCX142JH	V _{I(on)}	—	—	2.0 2.0	V	V _O = 0.3V, I _O = 20mA V _O = 0.3V, I _O = 20mA
Output Voltage	V _{O(on)}	—	—	0.3V	V	I _O /I _I = 5mA/0.25mA	
Input Current	DCX122LH DCX142JH	I _I	—	—	28 13	mA	V _I = 5V
Output Current	I _{O(off)}	—	—	0.5	μA	V _{CC} = 50V, V _I = 0V	
DC Current Gain	DDCX122LH DDCX142JH	G _I	56 56	—	—	—	V _O = 5V, I _O = 10mA
Gain-Bandwidth Product*	f _T	—	200	—	—	MHz	V _{CE} = 10V, I _E = 5mA, f = 100MHz

* Transistor - For Reference Only

Electrical Characteristics NPN Section @T_A = 25°C unless otherwise specified **R1-Only**

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition	
Collector-Base Breakdown Voltage	BV _{CBO}	50	—	—	V	I _C = 50μA	
Collector-Emitter Breakdown Voltage	BV _{CEO}	40	—	—	V	I _C = 1mA	
Emitter-Base Breakdown Voltage	DCX122TH DCX142TH	BV _{EBO}	5	—	—	V	I _E = 50μA I _E = 50μA
Collector Cutoff Current	I _{CBO}	—	—	0.5	μA	V _{CB} = 50V	
Emitter Cutoff Current	DCX122TH DCX142TH	I _{EBO}	—	—	0.5 0.5	μA	V _{EB} = 4V
Collector-Emitter Saturation Voltage	V _{CE(sat)}	—	—	0.3	V	I _C = 5mA, I _B = 0.25mA	
DC Current Transfer Ratio	DCX122TH DCX142TH	h _{FE}	100 100	250 250	600 600	—	I _C = 1mA, V _{CE} = 5V
Gain-Bandwidth Product*	f _T	—	200	—	—	MHz	V _{CE} = 10V, I _E = -5mA, f = 100MHz

* Transistor - For Reference Only

Electrical Characteristics PNP Section @ $T_A = 25^\circ\text{C}$ unless otherwise specified **R1, R2 Types**

Characteristic		Symbol	Min	Typ	Max	Unit	Test Condition
Input Voltage	DCX122LH DCX142JH	$V_{I(off)}$	-0.3 -0.3	—	—	V	$V_{CC} = -5V, I_O = -100\mu A$
	DCX122LH DCX142JH	$V_{I(on)}$	—	—	-2.0 -2.0	V	$V_O = -0.3V, I_O = -20mA$ $V_O = -0.3V, I_O = -20mA$
Output Voltage		$V_{O(on)}$	—	—	-0.3V	V	$I_O/I_I = -5mA/-0.25mA$
Input Current	DCX122LH DCX142JH	I_I	—	—	-28 -13	mA	$V_I = -5V$
Output Current		$I_{O(off)}$	—	—	-0.5	μA	$V_{CC} = -50V, V_I = 0V$
DC Current Gain	DCX122LH DCX142JH	G_I	56 56	—	—	—	$V_O = -5V, I_O = -10mA$
Gain-Bandwidth Product*		f_T	—	200	—	MHZ	$V_{CE} = -10V, I_E = -5mA, f = 100MHz$

* Transistor - For Reference Only

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified **R1-Only Types**

Characteristic		Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage		BV_{CBO}	-50	—	—	V	$I_C = -50\mu A$
Collector-Emitter Breakdown Voltage		BV_{CEO}	-40	—	—	V	$I_C = -1mA$
Emitter-Base Breakdown Voltage	DCX122TH DCX142TH	BV_{EBO}	-5	—	—	V	$I_E = -50\mu A$ $I_E = -50\mu A$
Collector Cutoff Current		I_{CBO}	—	—	-0.5	μA	$V_{CB} = -50V$
Emitter Cutoff Current	DCX122TH DCX142TH	I_{EBO}	— —	—	-0.5 -0.5	μA	$V_{EB} = -4V$
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	—	—	-0.3	V	$I_C = -5mA, I_B = -0.25mA$
DC Current Transfer Ratio	DCX122TH DCX142TH	h_{FE}	100 100	250 250	600 600	—	$I_C = -1mA, V_{CE} = -5V$
Gain-Bandwidth Product*		f_T	—	200	—	MHZ	$V_{CE} = -10V, I_E = 5mA, f = 100MHz$

* Transistor - For Reference Only

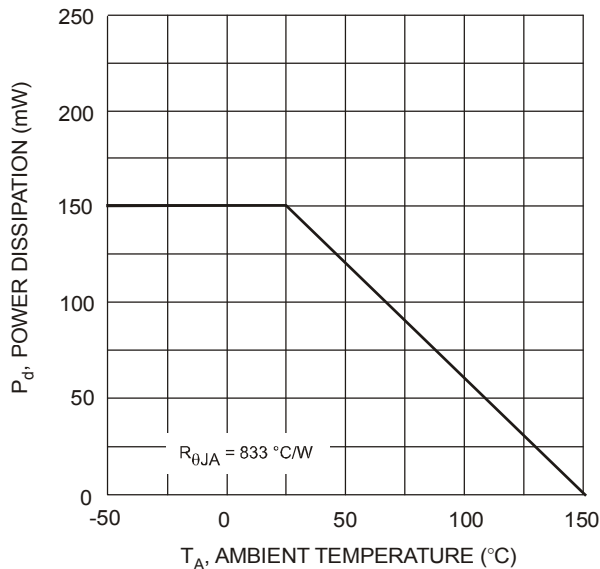


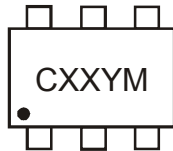
Fig. 1 Derating Curve - Total

Ordering Information (Note 6)

Device	Packaging	Shipping
DCX122LH-7	SOT-563	3000/Tape & Reel
DCX142JH-7	SOT-563	3000/Tape & Reel
DCX122TH-7	SOT-563	3000/Tape & Reel
DCX142TH-7	SOT-563	3000/Tape & Reel

Notes: 6. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



CXX = Product Type Marking Code (See Page 1)
 YM = Date Code Marking
 Y = Year ex: T = 2006
 M = Month ex: 9 = September

Date Code Key

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Code	N	P	R	S	T	U	V	W	X	Y	Z

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

IMPORTANT NOTICE

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. Diodes Incorporated does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on our website, harmless against all damages.

LIFE SUPPORT

Diodes Incorporated products are not authorized for use as critical components in life support devices or systems without the expressed written approval of the President of Diodes Incorporated.

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: org@lifeelectronics.ru