# 50V COMPLEMENTARY PRE-BIASED TRANSISTORS IN SOT363

## Features

- Supply Voltage $V_O$ = 50V
- Range of Bias Resistors
- Surface-Mount Package Suited for Automated Assembly
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **The DCX (XXXX) UQs are suitable for automotive applications requiring specific change control; these parts are AEC-Q101 qualified, PPAP capable, and manufactured in IATF 16949 certified facilities.**
  **https://www.diodes.com/quality/product-definitions/**

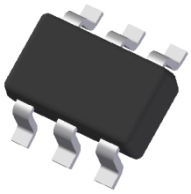
## Mechanical Data

- Package: SOT363
- Package Material: Molded Plastic, "Green" Molding Compound; UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish – Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208 e3
- Weight: 0.006 grams (Approximate)

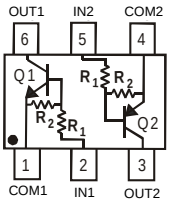
| Part Number | R1(NOM) | R2(NOM) |
|---|---|---|
| DCX124EU | 22kΩ | 22kΩ |
| DCX144EU | 47kΩ | 47kΩ |
| DCX114YU | 10kΩ | 47kΩ |
| DCX123JU | 2.2kΩ | 47kΩ |
| DCX114EU | 10kΩ | 10kΩ |
| DCX143EU | 4.7kΩ | 4.7kΩ |
| DCX143ZU | 4.7kΩ | 47kΩ |
| DCX115EU | 100kΩ | 100kΩ |

| Part Number | R1 Only |
|---|---|
| DCX143TU | 4.7kΩ |
| DCX114TU | 10kΩ |

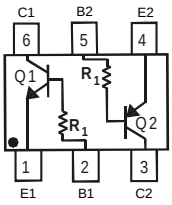
**SOT363**



Top View




R1, R2




R1 Only

Device Schematic

## Ordering Information (Notes 4, 5)

| Part Number | Status | Package | Marking | Reel Size (inches) | Tape Width (mm) | Packing | |
|---|---|---|---|---|---|---|---|
| | | | | | | Qty. | Carrier |
| DCX124EU-7-F | Active | SOT363 | C17 | 7 | 8 | 3,000 | Reel |
| DCX124EU-13-F | Active | SOT363 | C17 | 13 | 8 | 10,000 | Reel |
| DCX124EUQ-7-F | NRND (Use ACX124EUQ) | SOT363 | C17 | 7 | 8 | 3,000 | Reel |
| DCX124EUQ-13-F | NRND (Use ACX124EUQ) | SOT363 | C17 | 13 | 8 | 10,000 | Reel |
| DCX124EUQ-13R-F | NRND (Use ACX124EUQ) | SOT363 | C17 | 13 | 8 | 10,000 | Reel |
| DCX144EU-7-F | Active | SOT363 | C20 | 7 | 8 | 3,000 | Reel |
| DCX144EU-7R-F | Active | SOT363 | C20 | 7 | 8 | 3,000 | Reel |
| DCX144EUQ-7-F | Active | SOT363 | C20 | 7 | 8 | 3,000 | Reel |
| DCX144EUQ-7R-F | Active | SOT363 | C20 | 7 | 8 | 3,000 | Reel |
| DCX114YU-7-F | Active | SOT363 | C14 | 7 | 8 | 3,000 | Reel |
| DCX114YU-7R-F | Active | SOT363 | C14 | 7 | 8 | 3,000 | Reel |
| DCX114YUQ-7-F | NRND (Use ACX114YUQ) | SOT363 | C14 | 7 | 8 | 3,000 | Reel |
| DCX114YUQ-13-F | NRND (Use ACX114YUQ) | SOT363 | C14 | 13 | 8 | 10,000 | Reel |
| DCX114YUQ-13R-F | NRND (Use ACX114YUQ) | SOT363 | C14 | 13 | 8 | 10,000 | Reel |
| DCX123JU-7-F | Active | SOT363 | C06 | 7 | 8 | 3,000 | Reel |
| DCX123JU-7R-F | Active | SOT363 | C06 | 7 | 8 | 3,000 | Reel |
| DCX123JUQ-7-F | Active | SOT363 | C06 | 7 | 8 | 3,000 | Reel |
| DCX114EU-7-F | Active | SOT363 | C13 | 7 | 8 | 3,000 | Reel |
| DCX114EU-13R-F | Active | SOT363 | C13 | 13 | 8 | 10,000 | Reel |

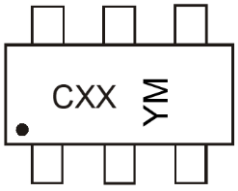
## Ordering Information (Notes 4, 5) (continued)

| Part Number | Status | Package | Marking | Reel Size (inches) | Tape Width (mm) | Packing | |
|---|---|---|---|---|---|---|---|
| | | | | | | Qty. | Carrier |
| DCX114EUQ-7-F | NRND (Use ACX114EUQ) | SOT363 | C13 | 7 | 8 | 3,000 | Reel |
| DCX114EUQ-13-F | NRND (Use ACX114EUQ) | SOT363 | C13 | 13 | 8 | 10,000 | Reel |
| DCX114EUQ-13R-F | NRND (Use ACX114EUQ) | SOT363 | C13 | 13 | 8 | 10,000 | Reel |
| DCX143TU-7-F | Active | SOT363 | C07 | 7 | 8 | 3,000 | Reel |
| DCX143EU-7-F | Active | SOT363 | C08 | 7 | 8 | 3,000 | Reel |
| DCX143EU-7R-F | Active | SOT363 | C08 | 7 | 8 | 3,000 | Reel |
| DCX114TU-7-F | Active | SOT363 | C12 | 7 | 8 | 3,000 | Reel |
| DCX143ZU-7-F | Active | SOT363 | C02 | 7 | 8 | 3,000 | Reel |
| DCX143ZU-7R-F | Active | SOT363 | C02 | 7 | 8 | 3,000 | Reel |
| DCX115EU-7-F | Active | SOT363 | C01 | 7 | 8 | 3,000 | Reel |

Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. For packaging details, go to our website at https://www.diodes.com/design/support/packaging/diodes-packaging/.
5. NRND = Not Recommended for New Design.

## Marking Information

**SOT363**




CXX = Product Type Marking Code
YM = Date Code Marking
Y or $\overline{Y}$= Year (ex: L = 2024)
M = Month (ex: D = December)

Date Code Key

| Year | 2010 | - | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Code | X | - | L | M | N | P | R | S | T | U | V | W |

| 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 |

## Absolute Maximum Ratings NPN Section (@ $T_A$ = +25°C, unless otherwise specified.)

| Characteristic | | Symbol | Value | Unit |
|---|---|---|---|---|
| Supply Voltage | | $V_O$ | 50 | V |
| Input Voltage | DCX124EU | $V_I$ | -10 to +40 | V |
| | DCX144EU | | -10 to +40 | |
| | DCX114YU | | -6 to +40 | |
| | DCX123JU | | -5 to +12 | |
| | DCX114EU | | -10 to +40 | |
| | DCX143TU | | -5V Max | |
| | DCX143EU | | -10 to +30 | |
| | DCX114TU | | -5V Max | |
| | DCX143ZU | | -10 to +30 | |
| | DCX115EU | | -10 to +40 | |
| Output Current | DCX124EU | $I_O$ | 30 | mA |
| | DCX144EU | | 30 | |
| | DCX114YU | | 70 | |
| | DCX123JU | | 100 | |
| | DCX114EU | | 50 | |
| | DCX143TU | | 100 | |
| | DCX143EU | | 100 | |
| | DCX114TU | | 100 | |
| | DCX143ZU | | 100 | |
| | DCX115EU | | 20 | |
| Peak Output Current | | $I_{CM}$ | 100 | mA |

## Absolute Maximum Ratings PNP Section (@ $T_A$ = +25°C, unless otherwise specified.)

| Characteristic | | Symbol | Value | Unit |
|---|---|---|---|---|
| Supply Voltage | | $V_O$ | 50 | V |
| Input Voltage | DCX124EU | $V_I$ | +10 to -40 | V |
| | DCX144EU | | +10 to -40 | |
| | DCX114YU | | +6 to -40 | |
| | DCX123JU | | +5 to -12 | |
| | DCX114EU | | +10 to -40 | |
| | DCX143TU | | +5V Max | |
| | DCX143EU | | +10 to -30 | |
| | DCX114TU | | +5V Max | |
| | DCX143ZU | | +5 to -30 | |
| | DCX115EU | | +10 to -40 | |
| Output Current | DCX124EU | $I_O$ | -30 | mA |
| | DCX144EU | | -30 | |
| | DCX114YU | | -70 | |
| | DCX123JU | | -100 | |
| | DCX114EU | | -50 | |
| | DCX143TU | | -100 | |
| | DCX143EU | | -100 | |
| | DCX114TU | | -100 | |
| | DCX143ZU | | -100 | |
| | DCX115EU | | -20 | |
| Peak Output Current | | $I_{CM}$ | -100 | mA |

## Thermal Characteristics (@ $T_A$ = +25°C, unless otherwise specified.)

| Characteristic | Symbol | Value | Unit |
|---|---|---|---|
| Power Dissipation (Notes 6, 7) | $P_D$ | 200 | mW |
| Thermal Resistance, Junction to Ambient Air (Note 6) | $R_{\theta JA}$ | 625 | °C/W |
| Operating and Storage Temperature Range | $T_J$, $T_{STG}$ | -55 to +150 | °C |

Notes: 6. Mounted on FR-4 PC Board with minimum recommended pad layout.
7. 150mW per element must not be exceeded.

## Thermal Characteristics (@ $T_A$ = +25°C, unless otherwise specified.)

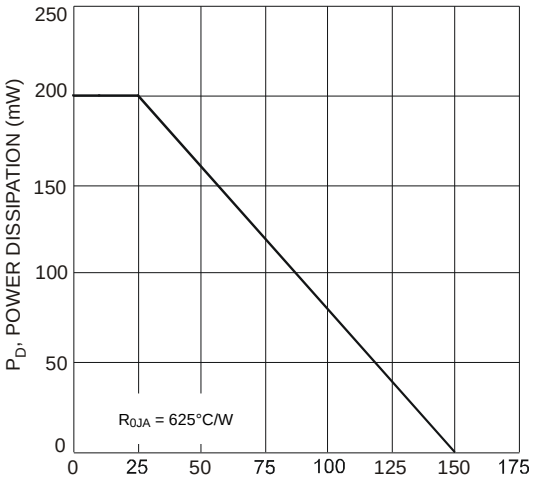



Fig. 1 Power Derating Curve

## Electrical Characteristics NPN Section (@ $T_A$ = +25°C, unless otherwise specified.)

| Characteristic | | Symbol | Min | Typ | Max | Unit | Test Condition |
|---|---|---|---|---|---|---|---|
| **R1 Only (DCX143TU & DCX114TU)** | | | | | | | |
| Collector-Base Breakdown Voltage | | $BV_{CBO}$ | 50 | — | — | V | $I_C$ = 50µA |
| Collector-Emitter Breakdown Voltage | | $BV_{CEO}$ | 50 | — | — | V | $I_C$ = 1mA |
| Emitter-Base Breakdown Voltage | | $BV_{EBO}$ | 5 | — | –– | V | $I_E$ = 50µA |
| Collector Cutoff Current | | $I_{CBO}$ | — | — | 0.5 | µA | $V_{CB}$ = 50V |
| Emitter Cutoff Current | | $I_{EBO}$ | — | — | 0.5 | µA | $V_{EB}$ = 4V |
| Collector-Emitter Saturation Voltage | | $V_{CE(sat)}$ | — | — | 0.3 | V | $I_C/I_B$ = 2.5mA / 0.25mA DCX143TU<br>$I_C/I_B$ = 1mA / 0.1mA DCX114TU |
| DC Current Transfer Ratio | | $h_{FE}$ | 100 | 250 | 600 | — | $I_C$ = 1mA, $V_{CE}$ = 5V |
| Input Resistor ($R_1$) Tolerance | | $\Delta R_1$ | -30 | — | +30 | % | — |
| Gain-Bandwidth Product | | $f_T$ | — | 250 | — | MHz | $V_{CE}$ = 10V, $I_E$ = 5mA, f = 100MHz |
| **R1/R2 Only** | | | | | | | |
| Input Voltage | DCX124EU | $V_{I(off)}$ | 0.5 | 1.1 | — | V | $V_{CC}$ = 5V, $I_O$ = 100µA |
| | DCX144EU | | 0.5 | 1.1 | | | |
| | DCX114YU | | 0.3 | — | | | |
| | DCX123JU | | 0.5 | — | | | |
| | DCX114EU | | 0.5 | 1.1 | | | |
| | DCX143EU | | 0.5 | 1.16 | | | |
| | DCX143ZU | | 0.5 | — | | | |
| | DCX115EU | | 0.5 | — | | | |
| | DCX124EU | $V_{I(on)}$ | — | 1.9 | 3.0 | | $V_O$ = 0.3V, $I_O$ = 5mA |
| | DCX144EU | | | 1.9 | 3.0 | | $V_O$ = 0.3V, $I_O$ = 2mA |
| | DCX114YU | | | — | 1.4 | | $V_O$ = 0.3V, $I_O$ = 1mA |
| | DCX123JU | | | — | 1.1 | | $V_O$ = 0.3V, $I_O$ = 5mA |
| | DCX114EU | | | 1.9 | 3.0 | | $V_O$ = 0.3V, $I_O$ = 10mA |
| | DCX143EU | | | 1.99 | 3.0 | | $V_O$ = 0.3V, $I_O$ = 20mA |
| | DCX143ZU | | | — | 1.3 | | $V_O$ = 0.3V, $I_O$ = 5mA |
| | DCX115EU | | | — | 3 | | $V_O$ = 0.3V, $I_O$ = 1mA |
| Output Voltage | DCX124EU | $V_{O(on)}$ | — | 0.1 | 0.3 | V | $I_O/I_I$ = 10mA / 0.5mA |
| | DCX144EU | | | | | | $I_O/I_I$ = 10mA / 0.5mA |
| | DCX114YU | | | | | | $I_O/I_I$ = 5mA / 0.25mA |
| | DCX123JU | | | | | | $I_O/I_I$ = 5mA / 0.25mA |
| | DCX114EU | | | | | | $I_O/I_I$ = 10mA / 0.5mA |
| | DCX143EU | | | | | | $I_O/I_I$ = 10mA / 0.5mA |
| | DCX143ZU | | | | | | $I_O/I_I$ = 5mA / 0.25mA |
| | DCX115EU | | | | | | $I_O/I_I$ = 10mA / 0.5mA |
| Input Current | DCX124EU | $I_I$ | — | — | 0.36 | mA | $V_I$ = 5V |
| | DCX144EU | | | | 0.18 | | |
| | DCX114YU | | | | 0.88 | | |
| | DCX123JU | | | | 3.6 | | |
| | DCX114EU | | | | 0.88 | | |
| | DCX143EU | | | | 0.88 | | |
| | DCX143ZU | | | | 1.8 | | |
| | DCX115EU | | | | 0.15 | | |
| Output Current | | $I_{O(off)}$ | — | — | 0.5 | µA | $V_{CC}$ = 50V, $V_I$ = 0V |
| DC Current Gain | DCX124EU | $G_I$ | 56 | — | — | — | $V_O$ = 5V, $I_O$ = 5mA |
| | DCX124EUQ | | 60 | | | | $V_O$ = 5V, $I_O$ = 5mA |
| | DCX144EU | | 68 | | | | $V_O$ = 5V, $I_O$ = 5mA |
| | DCX114YU | | 68 | | | | $V_O$ = 5V, $I_O$ = 10mA |
| | DCX114YUQ | | 80 | | | | $V_O$ = 5V, $I_O$ = 10mA |
| | DCX123JU | | 80 | | | | $V_O$ = 5V, $I_O$ = 10mA |
| | DCX114EU | | 30 | | | | $V_O$ = 5V, $I_O$ = 5mA |
| | DCX143EU | | 50 | | | | $V_O$ = 5V, $I_O$ = 10mA |
| | DCX143ZU | | 80 | | | | $V_O$ = 5V, $I_O$ = 10mA |
| | DCX115EU | | 82 | | | | $V_O$ = 5V, $I_O$ = 5mA |
| Input Resistor ($R_1$) Tolerance | | $\Delta R_1$ | -30 | — | +30 | % | — |
| Resistance Ratio Tolerance | | $\Delta R_2/R_1$ | -20 | — | +20 | % | — |
| Gain-Bandwidth Product | | $f_T$ | — | 250 | — | MHz | $V_{CE}$ = 10V, $I_E$ = 5mA, f = 100MHz |

## Electrical Characteristics PNP Section (@ $T_A$ = +25°C, unless otherwise specified.)

| Characteristic | | Symbol | Min | Typ | Max | Unit | Test Condition |
|---|---|---|---|---|---|---|---|
| **R1 Only (DCX143TU & DCX114TU)** | | | | | | | |
| Collector-Base Breakdown Voltage | | $BV_{CBO}$ | -50 | — | — | V | $I_C$ = -50µA |
| Collector-Emitter Breakdown Voltage | | $BV_{CEO}$ | -50 | — | — | V | $I_C$ = -1mA |
| Emitter-Base Breakdown Voltage | | $BV_{EBO}$ | -5 | — | — | V | $I_E$ = -50µA |
| Collector Cutoff Current | | $I_{CBO}$ | — | — | -0.5 | µA | $V_{CB}$ = -50V |
| Emitter Cutoff Current | | $I_{EBO}$ | — | — | -0.5 | µA | $V_{EB}$ = -4V |
| Collector-Emitter Saturation Voltage | | $V_{CE(sat)}$ | — | — | -0.3 | V | $I_C/I_B$ = 2.5mA / 0.25mA DCX143TU<br>$I_C/I_B$ = 1mA / 0.1mA DCX114TU |
| DC Current Transfer Ratio | | $h_{FE}$ | 100 | 250 | 600 | — | $I_C$ = -1mA, $V_{CE}$ = -5V |
| Input Resistor ($R_1$) Tolerance | | $\Delta R_1$ | -30 | — | +30 | % | — |
| Gain-Bandwidth Product | | $f_T$ | — | 250 | — | MHz | $V_{CE}$ = -10V, $I_E$ = -5mA, f = 100MHz |
| **R1/R2 Only** | | | | | | | |
| Input Voltage | DCX124EU | $V_{I(off)}$ | -0.5 | -1.1 | — | V | $V_{CC}$ = -5V, $I_O$ = -100µA |
| | DCX144EU | | -0.5 | -1.1 | | | |
| | DCX114YU | | -0.3 | — | | | |
| | DCX123JU | | -0.5 | — | | | |
| | DCX114EU | | -0.5 | -1.1 | | | |
| | DCX143EU | | -0.5 | -1.16 | | | |
| | DCX143ZU | | -0.5 | — | | | |
| | DCX115EU | | -0.5 | — | | | |
| | DCX124EU | $V_{I(on)}$ | — | -1.9 | -3.0 | | $V_O$ = -0.3V, $I_O$ = -5mA |
| | DCX144EU | | | -1.9 | -3.0 | | $V_O$ = -0.3V, $I_O$ = -2mA |
| | DCX114YU | | | — | -1.4 | | $V_O$ = -0.3V, $I_O$ = -1mA |
| | DCX123JU | | | — | -1.1 | | $V_O$ = -0.3V, $I_O$ = -5mA |
| | DCX114EU | | | -1.9 | -3.0 | | $V_O$ = -0.3V, $I_O$ = -10mA |
| | DCX143EU | | | -2.5 | -3.0 | | $V_O$ = -0.3V, $I_O$ = -20mA |
| | DCX143ZU | | | — | -1.3 | | $V_O$ = -0.3V, $I_O$ = -5mA |
| | DCX115EU | | | — | -3 | | $V_O$ = -0.3V, $I_O$ = -1mA |
| Output Voltage | DCX124EU | $V_{O(on)}$ | — | -0.1 | -0.3 | V | $I_O/I_I$ = -10mA / -0.5mA |
| | DCX144EU | | | | | | $I_O/I_I$ = -10mA / -0.5mA |
| | DCX114YU | | | | | | $I_O/I_I$ = -5mA / -0.25mA |
| | DCX123JU | | | | | | $I_O/I_I$ = -5mA / -0.25mA |
| | DCX114EU | | | | | | $I_O/I_I$ = -10mA / -0.5mA |
| | DCX143EU | | | | | | $I_O/I_I$ = -10mA / -0.5mA |
| | DCX143ZU | | | | | | $I_O/I_I$ = -5mA / -0.25mA |
| | DCX115EU | | | | | | $I_O/I_I$ = -10mA / -0.5mA |
| Input Current | DCX124EU | $I_I$ | — | — | -0.36 | mA | $V_I$ = -5V |
| | DCX144EU | | | | -0.18 | | |
| | DCX114YU | | | | -0.88 | | |
| | DCX123JU | | | | -3.6 | | |
| | DCX114EU | | | | -0.88 | | |
| | DCX143EU | | | | -0.88 | | |
| | DCX143ZU | | | | -1.8 | | |
| | DCX115EU | | | | -0.15 | | |
| Output Current | | $I_{O(off)}$ | — | — | -0.5 | µA | $V_{CC}$ = -50V, $V_I$ = 0V |
| DC Current Gain | DCX124EU | $G_I$ | 56 | — | — | — | $V_O$ = -5V, $I_O$ = -5mA |
| | DCX124EUQ | | 60 | | | | $V_O$ = -5V, $I_O$ = -5mA |
| | DCX144EU | | 68 | | | | $V_O$ = -5V, $I_O$ = -5mA |
| | DCX114YU | | 68 | | | | $V_O$ = -5V, $I_O$ = -10mA |
| | DCX114YUQ | | 80 | | | | $V_O$ = -5V, $I_O$ = -10mA |
| | DCX123JU | | 80 | | | | $V_O$ = -5V, $I_O$ = -10mA |
| | DCX114EU | | 30 | | | | $V_O$ = -5V, $I_O$ = -5mA |
| | DCX143EU | | 40 | | | | $V_O$ = -5V, $I_O$ = -10mA |
| | DCX143ZU | | 80 | | | | $V_O$ = -5V, $I_O$ = -10mA |
| | DCX115EU | | 82 | | | | $V_O$ = -5V, $I_O$ = -5mA |
| Input Resistor ($R_1$) Tolerance | | $\Delta R_1$ | -30 | — | +30 | % | — |
| Resistance Ratio Tolerance | | $\Delta R_2/R_1$ | -20 | — | +20 | % | — |
| Gain-Bandwidth Product | | $f_T$ | — | 250 | — | MHz | $V_{CE}$ = -10V, $I_E$ = -5mA, f = 100MHz |

## Typical Curves – DCX123JU PNP Section (@ $T_A$ = +25°C, unless otherwise specified.)

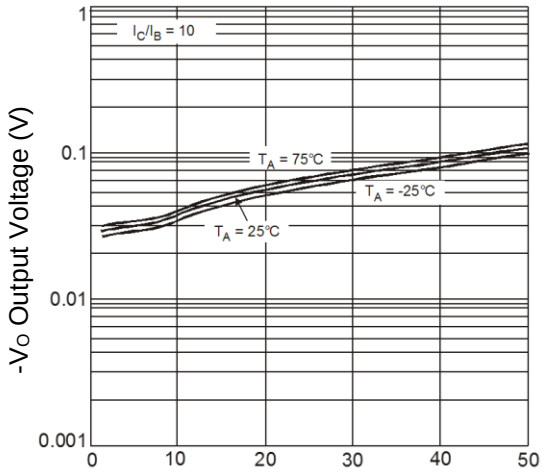



Fig.2 Typical $V_O$ vs. $I_O$

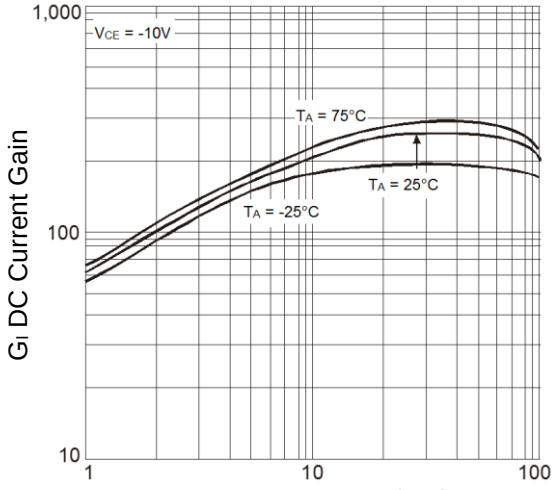



Fig.3 Typical $G_I$ vs. $I_O$

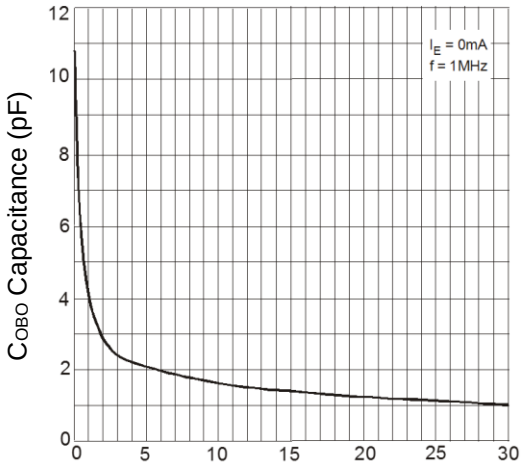



Fig.4 Typical $C_{OBO}$ vs. $V_R$

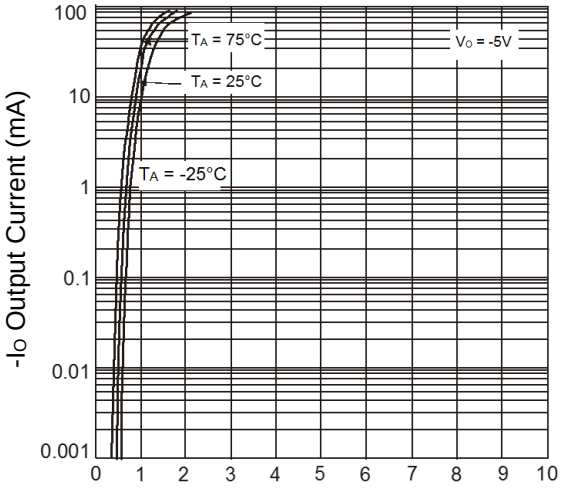



Fig.5 Typical $I_O$ vs. $V_I$

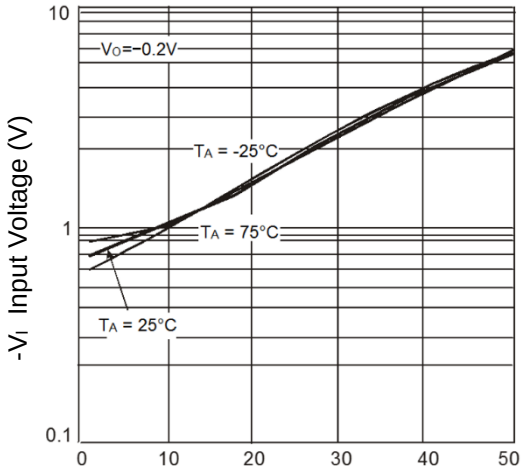



Fig.6 Typical $V_I$ vs. $I_O$

## Typical Curves – DCX123JU NPN Section (@ $T_A$ = +25°C, unless otherwise specified.)

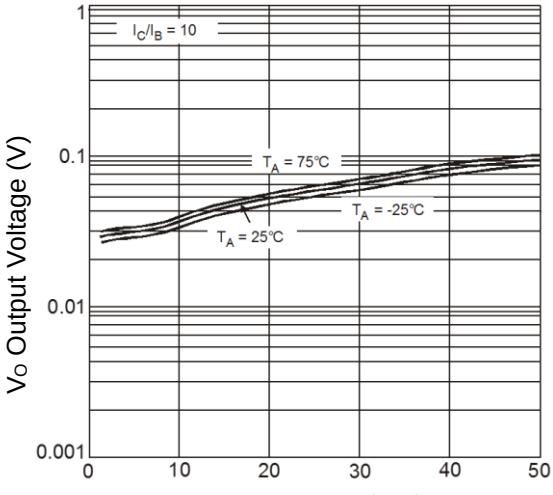



Fig.7 Typical $V_O$ vs. $I_O$

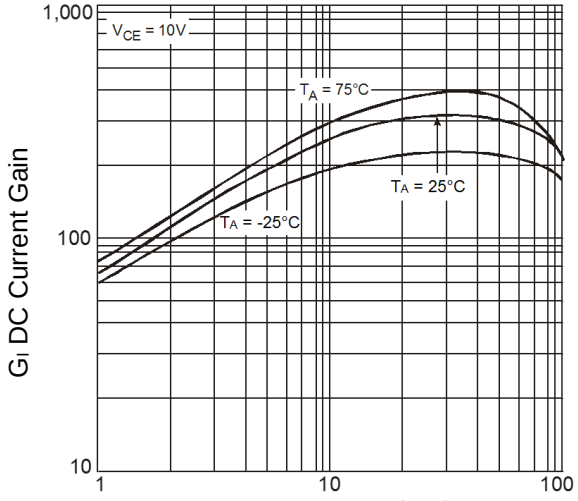



Fig.8 Typical $G_I$ vs. $I_O$

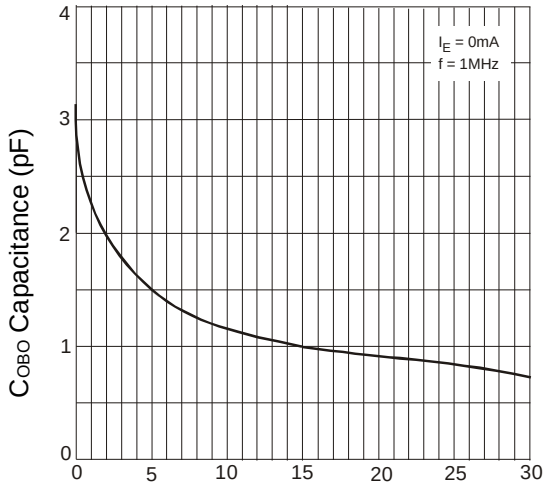



Fig.9 Typical $C_{OBO}$ vs. $V_R$

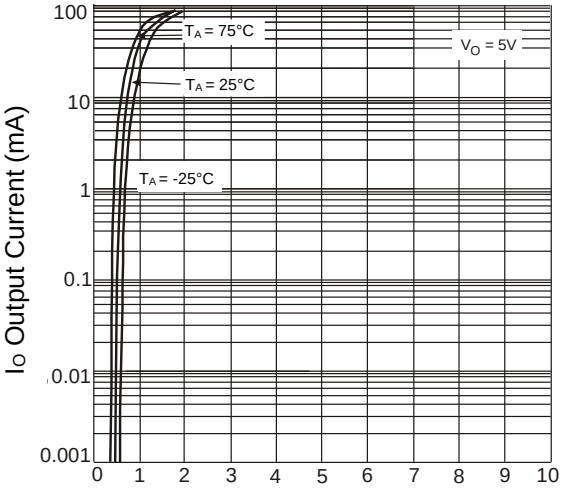



Fig.10 Typical $I_O$ vs. $V_I$

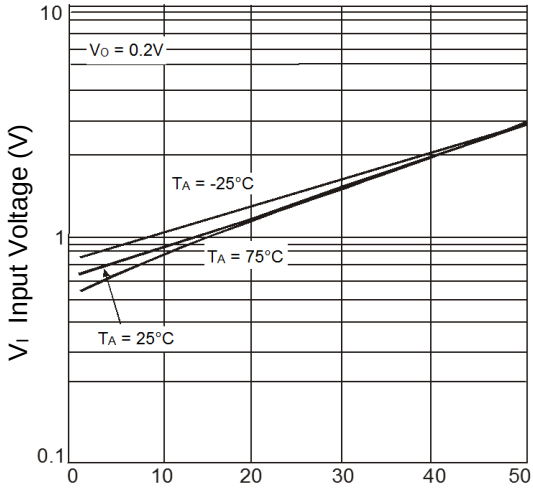
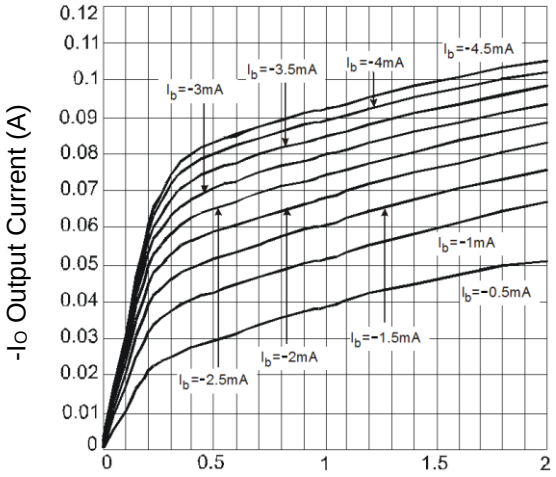


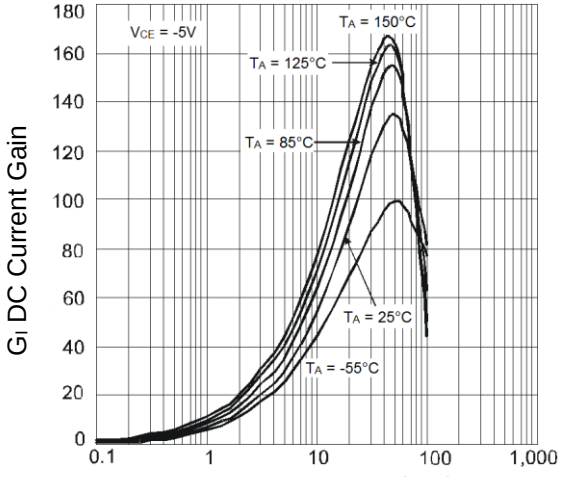

Fig.11 Typical $V_I$ vs. $I_O$

## Typical Curves – DCX143EU PNP Section (@ $T_A$ = +25°C, unless otherwise specified.)



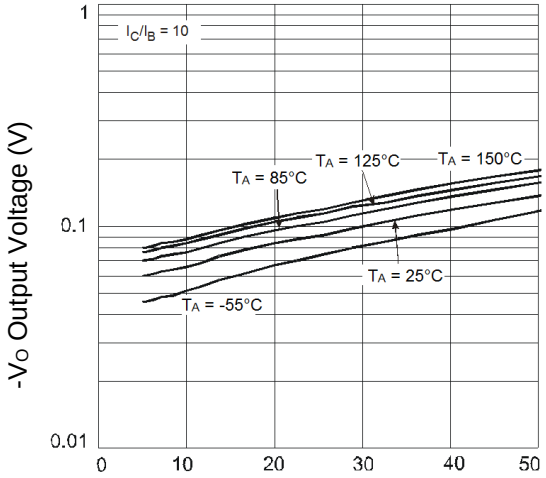

-VO Output Voltage (V)

Fig.12 Typical IO vs. VO



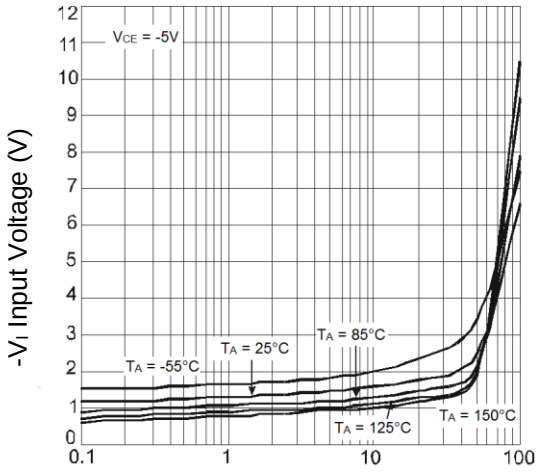

-IO Output Current (mA)

Fig.13 Typical GI vs. IO



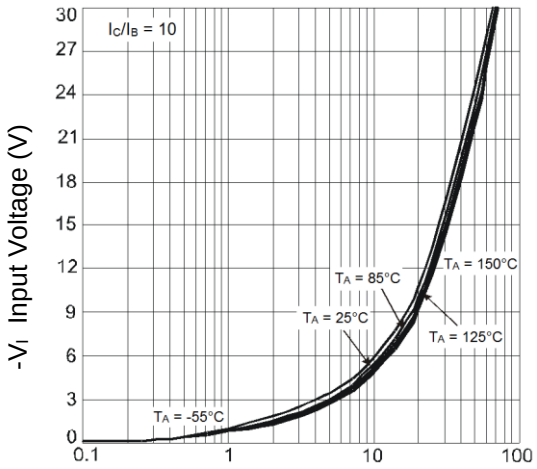

-IO Output Current (mA)

Fig.14 Typical VO vs. IO



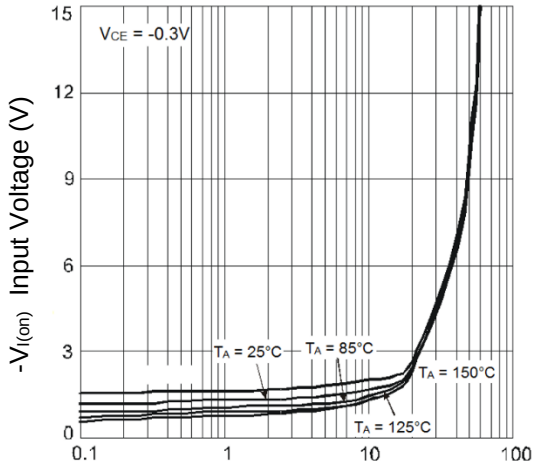

-IO Output Current (mA)

Fig.15 Typical VI vs. IO




-IO Output Current (mA)

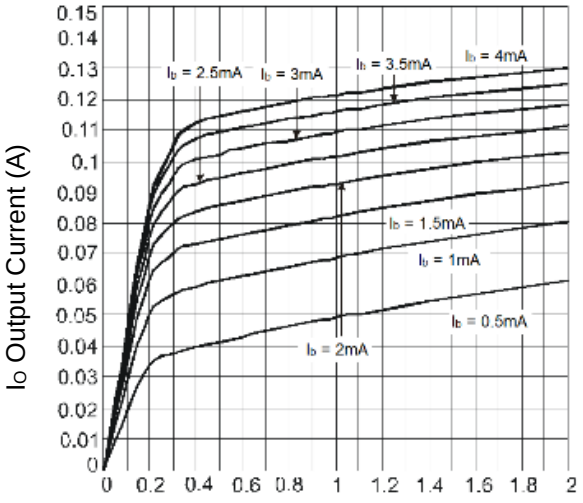
Fig.16 Typical VI vs. IO



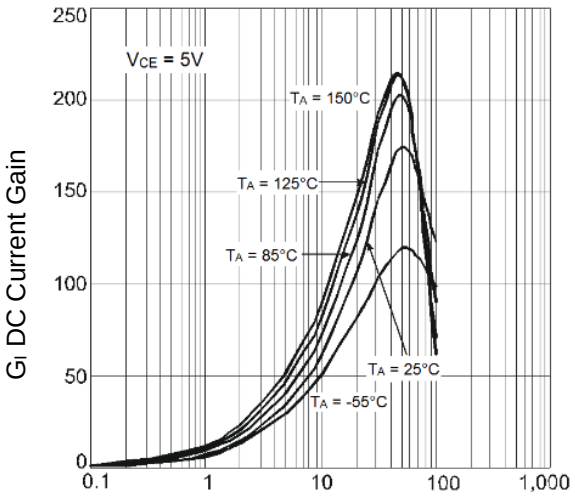

-IO Output Current (mA)

Fig.17 Typical VI(on) vs. IO

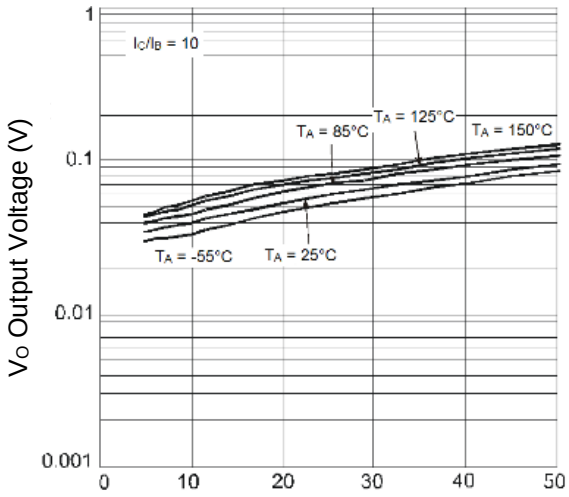
## Typical Curves – DCX143EU NPN Section (@ $T_A$ = +25°C, unless otherwise specified.)



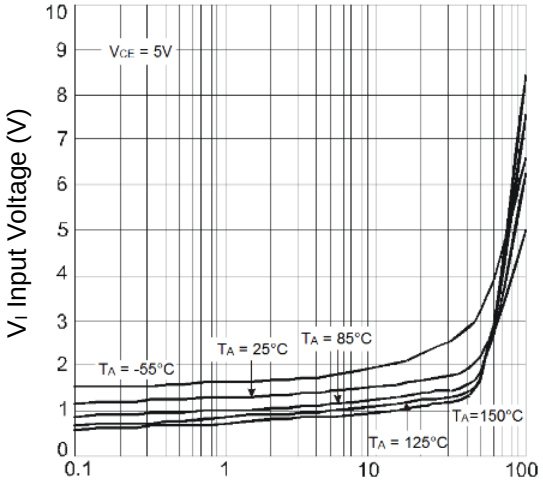

Vo Output Voltage (V)
Fig.18 Typical Io vs. Vo



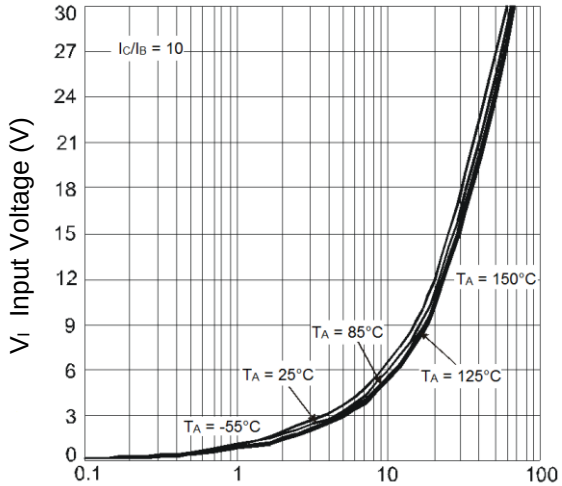

Io Output Current (mA)
Fig.19 Typical $G_I$ vs. Io



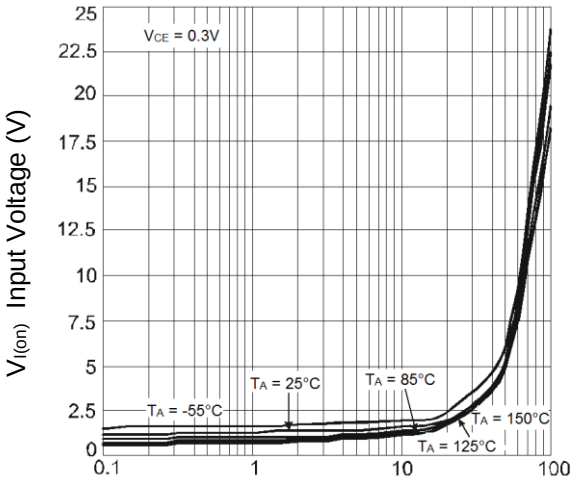

Io Output Current (mA)
Fig.20 Typical Vo vs. Io




Io Output Current (mA)
Fig.21 Typical $V_I$ vs. Io

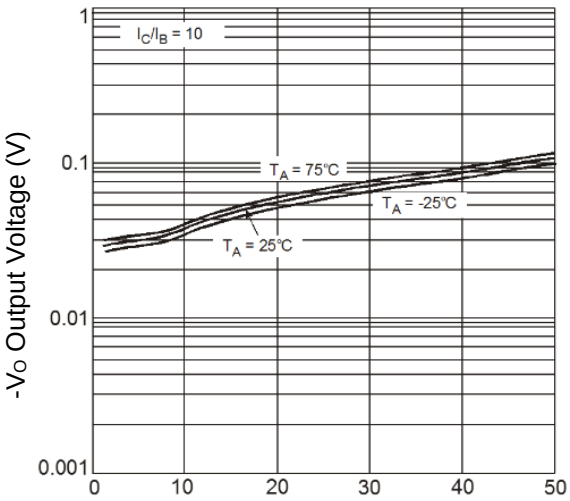



Io Output Current (mA)
Fig.22 Typical $V_I$ vs. Io



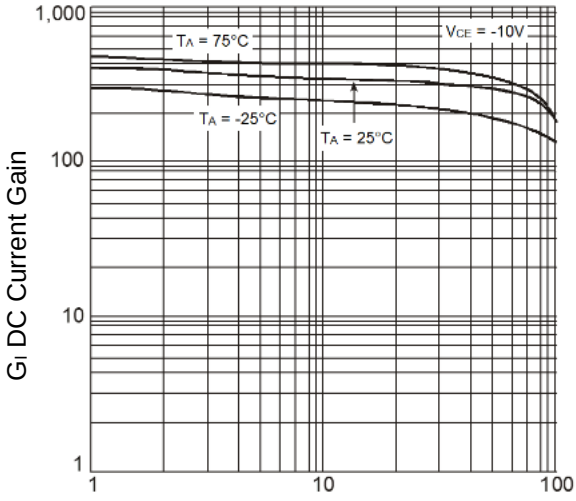

Io Output Current (mA)
Fig.23 Typical $V_{I(on)}$ vs. Io

## Typical Curves – DCX114TU PNP Section (@ $T_A$ = +25°C, unless otherwise specified.)



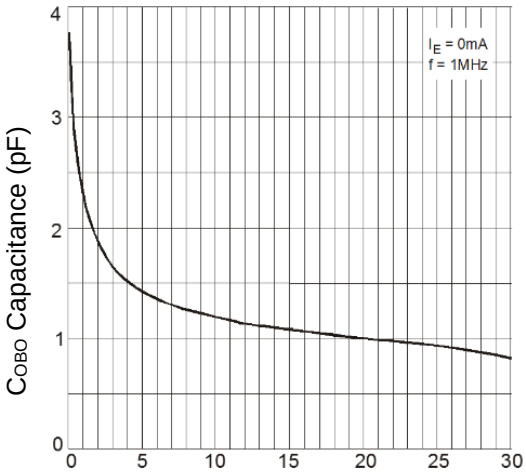

-$I_O$ Output Current (mA)

Fig.24 Typical $V_O$ vs. $I_O$



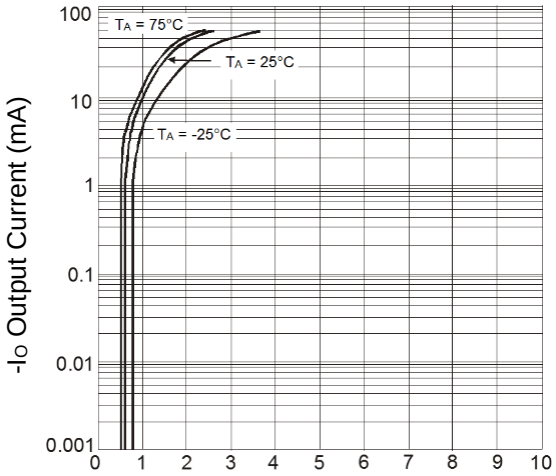

-$I_O$ Output Current (mA)

Fig.25 Typical $G_I$ vs. $I_O$



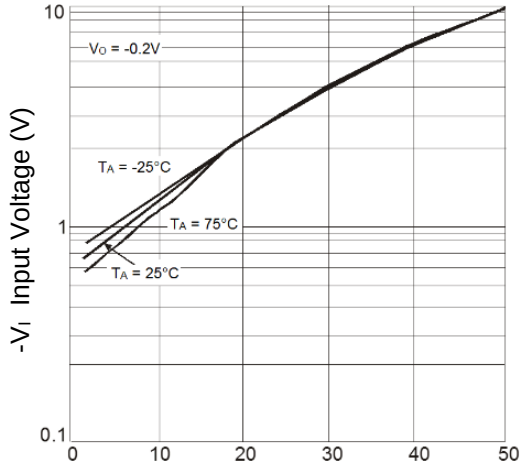

$V_R$ Reverse Bias Voltage (V)

Fig.26 Typical $C_{OBO}$ vs. $V_R$




-$V_I$ Input Voltage (V)

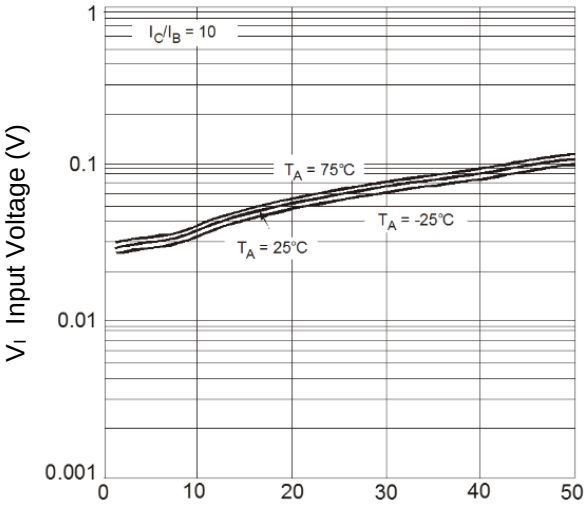
Fig.27 Typical $I_O$ vs. $V_I$




-$I_O$ Output Current (mA)

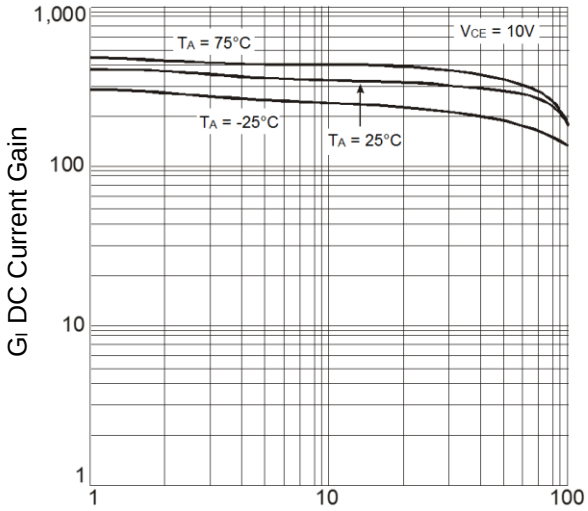
Fig.28 Typical $V_I$ vs. $I_O$

## Typical Curves – DCX114TU NPN Section (@ $T_A$ = +25°C, unless otherwise specified.)



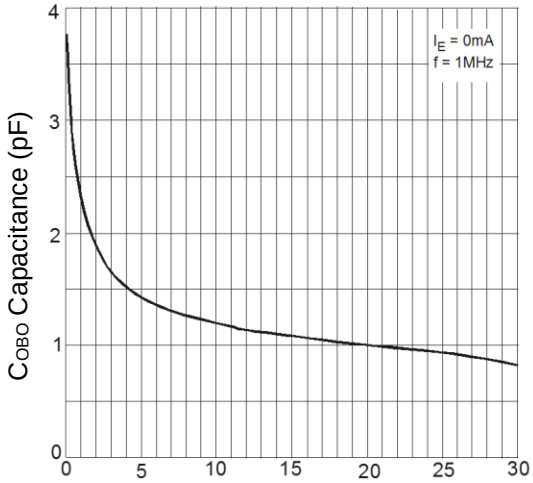

$I_O$ Output Current (mA)

Fig.29 Typical $V_I$ vs. $I_O$



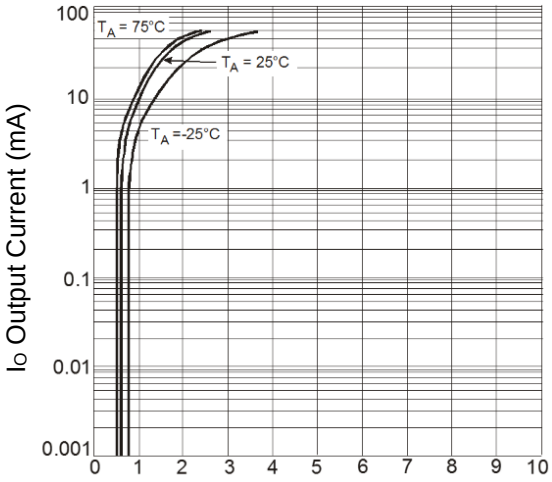

$I_O$ Output Current (mA)

Fig.30 Typical $G_I$ vs. $I_O$



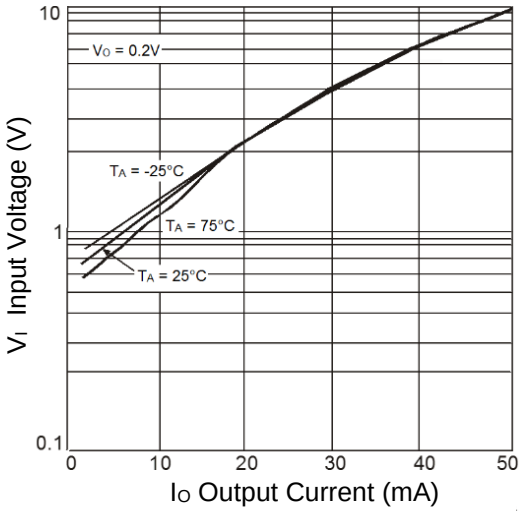

$V_R$ Reverse Bias Voltage (V)

Fig.31 Typical $C_{OBO}$ vs. $V_R$




$V_I$ Input Voltage (V)

Fig.32 Typical $I_O$ vs. $V_I$



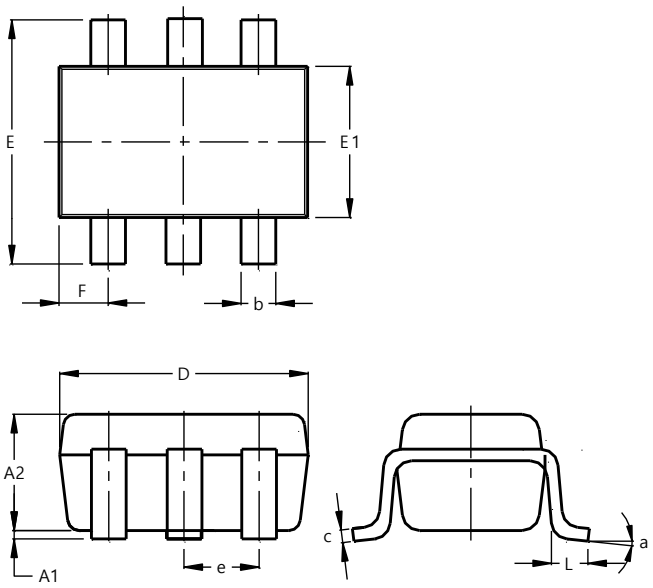

$I_O$ Output Current (mA)

Fig.33 Typical $V_I$ vs. $I_O$

## Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

**SOT363**

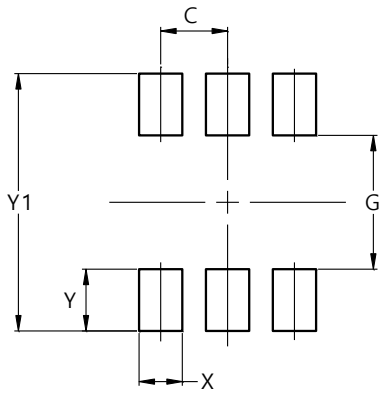



| SOT363 | | | |
|---|---|---|---|
| **Dim** | **Min** | **Max** | **Typ** |
| **A1** | 0.00 | 0.10 | 0.05 |
| **A2** | 0.90 | 1.00 | 0.95 |
| **b** | 0.10 | 0.30 | 0.25 |
| **c** | 0.10 | 0.22 | 0.11 |
| **D** | 1.80 | 2.20 | 2.15 |
| **E** | 2.00 | 2.20 | 2.10 |
| **E1** | 1.15 | 1.35 | 1.30 |
| **e** | 0.650 BSC | | |
| **F** | 0.40 | 0.45 | 0.425 |
| **L** | 0.25 | 0.40 | 0.30 |
| **a** | 0° | 8° | -- |
| **All Dimensions in mm** | | | |

## Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

**SOT363**




| Dimensions | Value (in mm) |
|---|---|
| **C** | 0.650 |
| **G** | 1.300 |
| **X** | 0.420 |
| **Y** | 0.600 |
| **Y1** | 2.500 |

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