



## DP0150ADJ / DP0150BDJ

### **DUAL PNP SURFACE MOUNT TRANSISTOR**

### **Features**

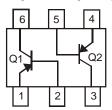
- **Epitaxial Planar Die Construction**
- Ideally Suited for Automated Assembly Processes
- Lead Free By Design/RoHS Compliant (Note 1)
- "Green" Device (Note 2)
- **Ultra Small Package**

## **Mechanical Data**

- Case: SOT-963
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Finish Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.0027 grams (approximate)

SOT-963





Device Schematic

### **Maximum Ratings** @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V <sub>CBO</sub>	-50	V
Collector-Emitter Voltage	V <sub>CEO</sub>	-50	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Collector Current - Continuous	Ic	-100	mA
Base Current	I <sub>B</sub>	-30	mA

### **Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 3)	$P_{D}$	300	mW
Thermal Resistance, Junction to Ambient (Note 3)	$R_{ hetaJA}$	417	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

### Electrical Characteristics @TA = 25°C unless otherwise specified

Characte	eristic	Symbol	Min	Тур	Max	Unit	Test Condition
OFF CHARACTERISTICS (No	te 4)						
Collector-Base Breakdown Volt	age	V( <sub>BR)CBO</sub>	-50	_	_	V	$I_C = -10\mu A, I_E = 0$
Collector-Emitter Breakdown Vo	oltage	V( <sub>BR)CEO</sub>	-50	_	_	V	$I_C = -1 \text{ mA}, I_B = 0$
Emitter-Base Breakdown Voltag	ge	V( <sub>BR)EBO</sub>	-5	_	_	V	$I_E = -10 \mu A, I_C = 0$
Collector Cut-Off Current		I <sub>CBO</sub>	_	_	-0.1	μΑ	$V_{CB} = -50V, I_{E} = 0$
Emitter Cut-Off Current		I <sub>EBO</sub>	_	_	-0.1	μΑ	$V_{EB} = -5V, I_{C} = 0$
ON CHARACTERISTICS (Note	e 4)						
Collector-Emitter Saturation Vo	ltage	V <sub>CE</sub> (SAT)		-0.15	-0.3	V	$I_C = -100 \text{mA}, I_B = -10 \text{mA}$
	DP0150ADJ	h <sub>FE</sub>	120	_	240	-	$V_{CE} = -6V$ , $I_C = -2mA$
	DP0150BDJ		200	_	400		
<b>SMALL SIGNAL CHARACTER</b>	RISTICS						
Transition Frequency		f <sub>T</sub>	80	_	_	MHz	$V_{CE} = -10V, I_{E} = 1mA$ f = 30MHz
Output Capactiance		C <sub>ob</sub>	_	1.6	_	pF	V <sub>CB</sub> = -10V, I <sub>E</sub> = 0, f = 1MHz

Notes:

- No purposefully added lead.
- Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead\_free/index.php.
   Device mounted on FR-4 PCB with minimum recommended pad layout.
- 4. Measured under pulsed conditions. Pulse width =  $300\mu s$ . Duty cycle  $\leq 2\%$

# DIODES

## DP0150ADJ / DP0150BDJ

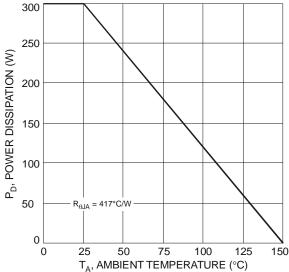
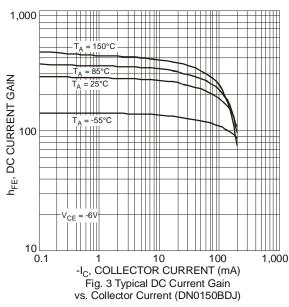
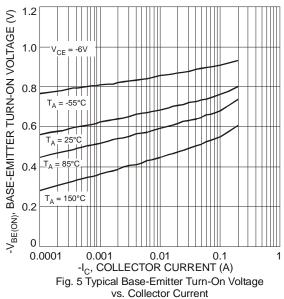
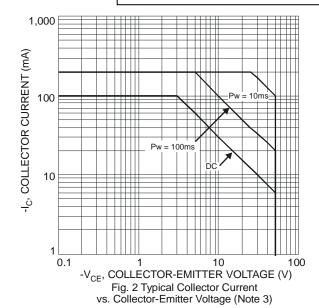
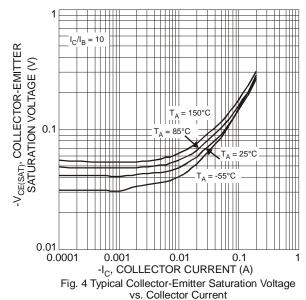


Fig. 1 Power Dissipation vs. Ambient Temperature (Note 3)









1.2

BY
1.0

Ic/I<sub>B</sub> = 10

ON NOLLY

O.8

T<sub>A</sub> = .55°C

T<sub>A</sub> = .55°C

T<sub>A</sub> = 150°C

O.2

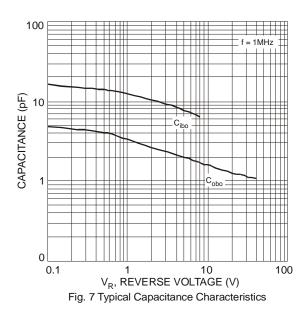
T<sub>A</sub> = 150°C

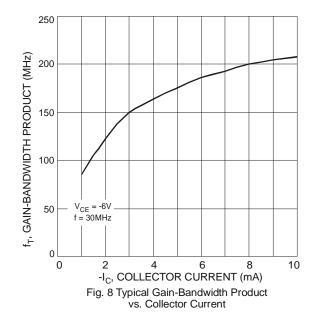
I<sub>C</sub>, COLLECTOR CURRENT (A)

Fig. 6 Typical Base-Emitter Saturation Voltage

vs. Collector Current





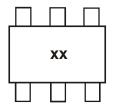


## Ordering Information (Note 5)

Device	Packaging	Shipping		
DP0150ADJ-7	SOT-963	10,000/Tape & Reel		
DP0150BDJ-7	SOT-963	10,000/Tape & Reel		

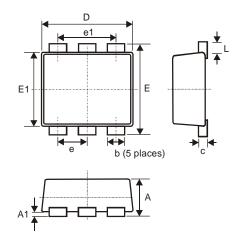
Notes: 5. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

# **Marking Information**



xx= Product Type Marking Code: T5 = DP0150ADJ T6 = DP0150BDJ

# **Package Outline Dimensions**



301-963					
Dim	Min	Max	Тур		
Α	0.40	0.50	0.45		
A1	0	0.05	-		
С	0.077	0.177	0.127		
D	0.95	1.05	1.00		
E	0.95	1.05	1.00		
E1	0.75	0.85	0.80		
L	0.05	0.15	0.10		
b	0.10	0.20	0.15		
е	0.35 Typ				
e1	0.70 Typ				
All Dimensions in mm					



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