





LOW V_{CE(SAT)} PNP SURFACE MOUNT TRANSISTOR

Features

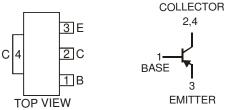
- Epitaxial Planar Die Construction
- Complementary NPN Type Available (DXT651)
- Ideally Suited for Automated Assembly Processes
- Ideal for Medium Power Switching or Amplification Applications
- Lead Free By Design/RoHS Compliant (Note 1)
- "Green" Device (Note 2)

Mechanical Data

- Case: SOT89-3L
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish Matte Tin annealed over Copper leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 4
- Ordering Information: See Page 4
- Weight: 0.072 grams (approximate)







Schematic and Pin Configuration

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	-80	V
Collector-Emitter Voltage	V _{CEO}	-60	V
Emitter-Base Voltage	V _{EBO}	-5	V
Continuous Collector Current	I _C	-3	Α
Peak Pulse Collector Current	I _{CM}	-6	Α

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 3) @ T _A = 25°C	P_{D}	1	W
Thermal Resistance, Junction to Ambient Air (Note 3) @T _A = 25°C	$R_{\theta JA}$	125	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

Notes:

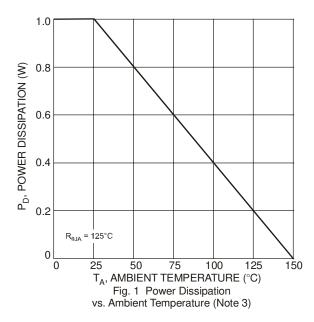
- 1. No purposefully added lead.
- 2. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
- Device mounted on FR-4 PCB; pad layout as shown on page 4 or in Diodes Inc. suggested pad layout document AP02001, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.

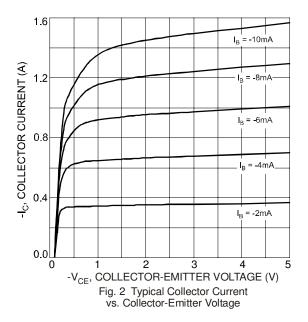


Electrical Characteristics @TA = 25°C unless otherwise specified

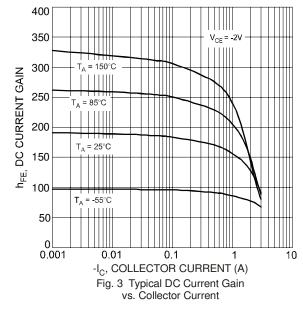
Characteristic	Symbol	Min	Тур	Max	Unit	Test Conditions
OFF CHARACTERISTICS (Note 4)						
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-80		_	V	$I_C = -100\mu A, I_E = 0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-60	_	_	V	$I_C = -10 \text{mA}, I_B = 0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5		_	V	$I_E = -100 \mu A, I_C = 0$
Collector Cutoff Current	I _{CBO}	_		-0.1 -10	μ Α μ Α	V _{CB} = -60V, I _E = 0 V _{CB} = -60V, I _E = 0, T _A = 100°C
Emitter Cutoff Current	I _{EBO}	_	_	-0.1	μΑ	$V_{EB} = -4V, I_{C} = 0$
ON CHARACTERISTICS (Note 4)						
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	_	-0.08 -0.2	-0.3 -0.6	٧	$I_C = -1A$, $I_B = -100mA$ $I_C = -3A$, $I_B = -300mA$
Base-Emitter Saturation Voltage	V _{BE(SAT)}	_	-0.9	-1.25	V	I _C = -1A, I _B = -100mA
Base-Emitter Turn-On Voltage	V _{BE(ON)}	_	-0.8	-1	V	$V_{CE} = -2V, I_{C} = -1A$
DC Current Gain	h _{FE}	70 100 80 40	200 180 160 140	300 — —	_	V _{CE} = -2V, I _C = -50mA V _{CE} = -2V, I _C = -500mA V _{CE} = -2V, I _C = -1A V _{CE} = -2V, I _C = -2A
AC CHARACTERISTICS						
Transition Frequency	f⊤	100	145	_	MHz	$V_{CE} = -10V$, $I_{C} = -50mA$, $f = 100MHz$
Output Capacitance	C_{obo}	_		30	рF	$V_{CB} = -10V$, $f = 1MHz$
Switching Times	t _{on} t _{off}	_	45 200		ns ns	$I_C = -500$ mA, $V_{CC} = -10$ V $I_{B1} = I_{B2} = -50$ mA

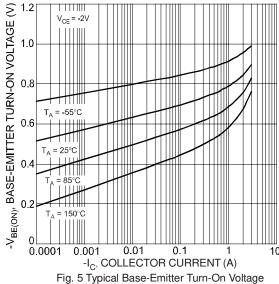
Notes: 4. Measured under pulsed conditions. Pulse width = $300\mu s$. Duty cycle $\leq 2\%$.

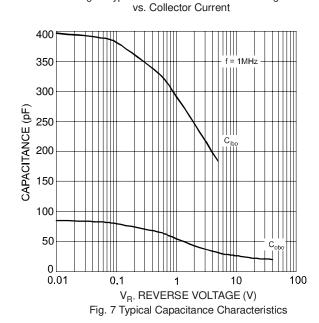












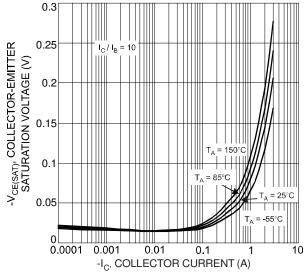


Fig. 4 Typical Collector-Emitter Saturation Voltage vs. Collector Current

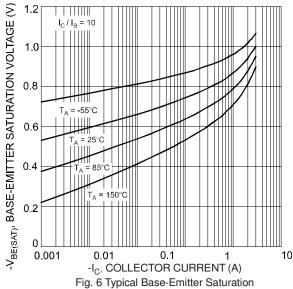


Fig. 6 Typical Base-Emitter Saturation Voltage vs. Collector Current

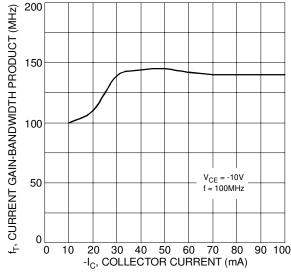


Fig. 8 Typical Gain-Bandwidth Product vs. Collector Current

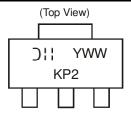


Ordering Information (Note 5)

I	Device	Packaging	Shipping
	DXT751-13	SOT89-3L	2500/Tape & Reel

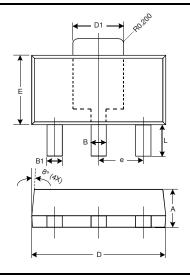
5. For packaging details, go to our website at http://www.diodes.com/ap02007.pdf.

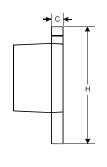
Marking Information



KP2 = Product Type Marking Code YWW = Date Code Marking Y = Last digit of year ex: 7 = 2007 WW = Week code 01 - 52

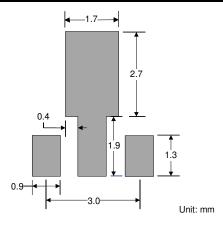
Package Outline Dimensions





SOT89-3L					
Dim	Min	Max	Тур		
Α	1.40	1.60	1.50		
В	0.45	0.55	0.50		
B1	0.37	0.47	0.42		
С	0.35	0.43	0.38		
D	4.40	4.60	4.50		
D1	1.50	1.70	1.60		
Е	2.40	2.60	2.50		
е	_	_	1.50		
Н	3.95	4.25	4.10		
L	0.90	1.20	1.05		
All Dimensions in mm					

Suggested Pad Layout



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