



DXTN26070CY

70V NPN POWER SWITCHING TRANSISTOR IN SOT89

Features

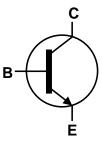
- BV_{CEO} > 70V
- I_C = 2A High Continuous Collector Current
- I_{CM} Up to 4A Peak Pulse Current
- 2W Power Dissipation
- Low Saturation Voltage <300 mV @ 1A
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)

Mechanical Data

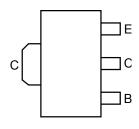
- Case: SOT89
- Case Material: Molded Plastic, "Green" Molding Compound
- UL Flammability Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish Matte Tin Plated Lead.
 Solderable per MIL-STD-202, Method 208 @3
- Weight: 0.052 grams (Approximate)







Device Symbol



Top View Pin-Out

Ordering Information (Note 4)

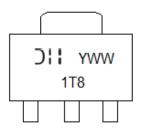
1						
	Product	Compliance	Marking	Reel size (inches)	Tape width (mm)	Quantity per reel
	DXTN26070CY-13	Standard	1T8	13	12	2.500

Notes:

- 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
- See http://www.diodes.com/quality/lead_free.html 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 http://www.diodes.com/products/packages.html.

Marking Information

SOT89



1T8 = Product Type Marking Code YWW = Date Code Marking Y = Last Digit of Year (ex: 5 = 2015) WW = Week Code 01 - 52



Absolute Maximum Ratings (@TA = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	150	V
Collector-Emitter Voltage	V _{CEO}	70	V
Emitter-Base Voltage	V _{EBO}	7	V
Continuous Collector Current	Ic	2	Α
Peak Pulse Current (Note 5)	I _{CM}	4	Α

Note 5. Measured under pulsed conditions. Pulse width = 300µs. Duty cycle ≤ 2%.

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

Characteristic		Symbol	Value	9	Unit	
	(Note 6)			0.7		
Dower Dissination	(Note 7)			1.0	W	
Power Dissipation	(Note 8)		P _D	1.5		
	(Note 9)			2.0	1	
	(Note 6)			178		
Thermal Decistance, Junction to Ambient Air	(Note 7)			125		
Thermal Resistance, Junction to Ambient Air	(Note 8)	─────────────────────────────────────	R ₀ JA 83	83	°C/W	
	(Note 9)			60		
Thermal Resistance, Junction to Lead	(Note 10) R ₆)JL	22		
Operating and Storage Temperature Range			STG	-55 to +150	°C	

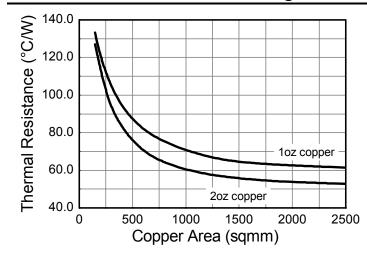
ESD Ratings (Note 11)

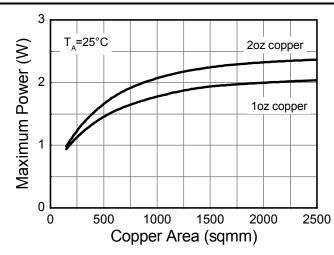
Characteristic	Symbol	Value	Unit	JEDEC Class
Electrostatic Discharge - Human Body Model	ESD HBM	4,000	V	3A
Electrostatic Discharge - Machine Model	ESD MM	400	V	С

Notes:

- 6. For a device mounted with the exposed collector pad on minimum recommended pad layout (MRP) 1oz copper that is on a single-sided 1.6mm FR4 PCB; device is measured under still air conditions whilst operating in a steady-state.
- 7. Same as Note 5, except the device is mounted with the exposed collector pad on 15mm x 15mm 1oz copper.
- 8. Same as Note 5, except the device is mounted with the exposed collector pad on 25mm x 25mm 1oz copper.
- 9. Same as Note 5, except the device is mounted with the exposed collector pad on 50mm x 50mm 1oz copper.
- 10. Thermal resistance from junction to solder-point (on the exposed collector pad).
- 11. Refer to JEDEC specification JESD22-A114 and JESD22-A115.

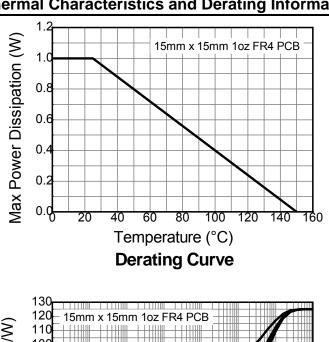
Thermal Characteristics and Derating Information

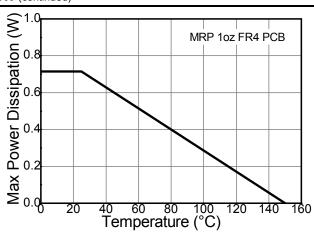




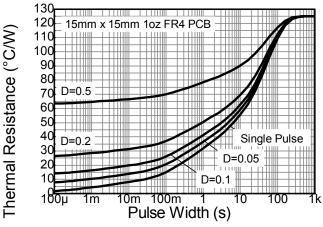


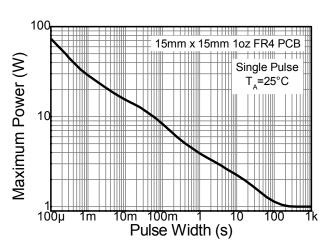






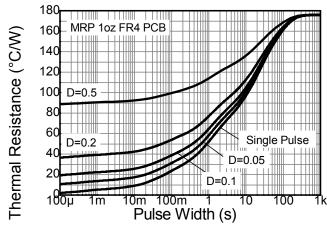
Derating Curve

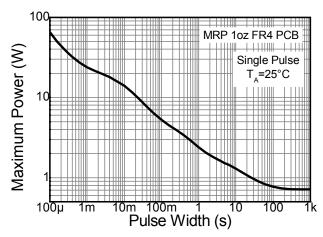




Transient Thermal Impedance

Pulse Power Dissipation





Transient Thermal Impedance

Pulse Power Dissipation



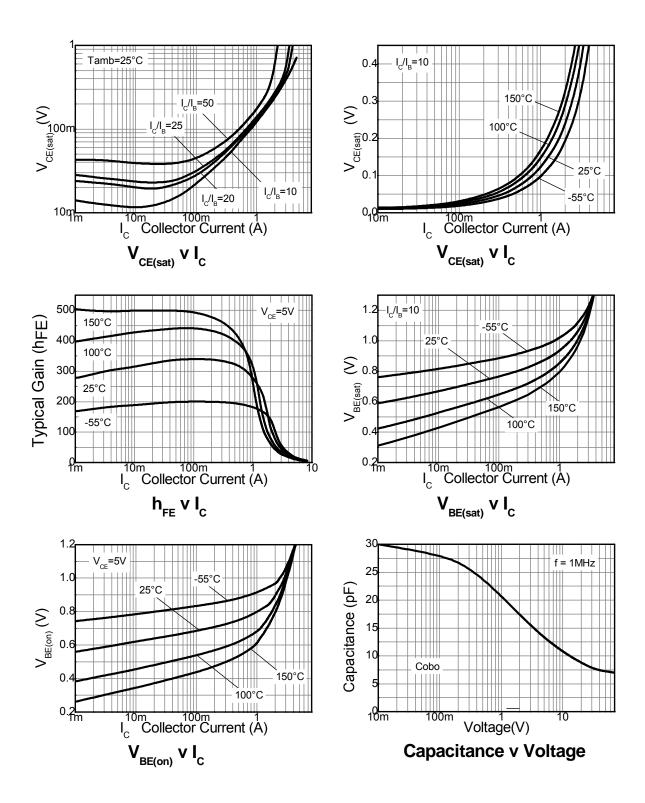
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
OFF CHARACTERISTICS						
Collector-Base Breakdown Voltage	BV _{CBO}	150	-	-	V	I _C = 100 μA
Collector-Emitter Breakdown Voltage (Note 12)	BV _{CEO}	70	-	-	V	I _C = 1mA
Emitter-Base Breakdown Voltage	BV _{EBO}	7	8.2	-	V	I _E = 100 μA
Collector-Base Cutoff Current	Ісво	-	<1 -	50 10	nΑ μΑ	V _{CB} = 96V V _{CB} = 96V, T _A = +100°C
Emitter-Base Cutoff Current	I _{EBO}	-	<1	20	nA	V _{EB} = 5.6V
ON CHARACTERISTICS (Note 12)						
Static Forward Current Transfer Ratio	h _{FE}	120 150 200	260 290 300	- - 500	- - -	I _C = 1mA, V _{CE} = 5V I _C = 10mA, V _{CE} = 2V I _C = 100mA, V _{CE} = 2V
Collector-Emitter Saturation Voltage	V _{CE(sat)}	-	150	300	mV	I _C = 1A, I _B = 100mA
Base-Emitter Turn-On Voltage	V _{BE(on)}	-	780	-	mV	I _C = 1A, V _{CE} = 5V
Base-Emitter Saturation Voltage	V _{BE(sat)}	-	950	-	mV	I _C = 1A, I _B = 50mA
SMALL SIGNAL CHARACTERISTICS						
Output Capacitance	C_{obo}	-	10	-	pF	V _{CB} = 10V, f = 1MHz
Transition Frequency	f _T	150	220	-	MHz	V _{CE} = 10V, I _C = 50mA, f = 100MHz
Turn-On Time	t _{on}	-	63	-		
Delay Time	t _d	-	33	-		
Rise Time	t _r	-	30	-	ns	V _{CC} =10V, I _C =0.5A
Turn-Off Time	t_{off}	-	420	-	115	I _{B2} = -I _{B1} = 25mA
Storage Time	ts	-	380	-		
Fall Time	t _f	-	40	-		

Note: 12. Measured under pulsed conditions. Pulse width $\leq 300 \mu s$. Duty cycle $\leq 2\%$.



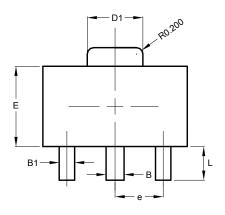
Typical Characteristics (@T_A = +25°C, unless otherwise specified.)

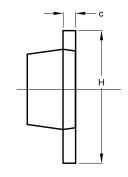


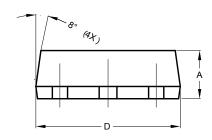


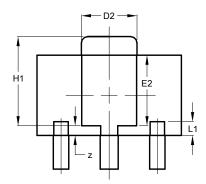
Package Outline Dimensions

Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.





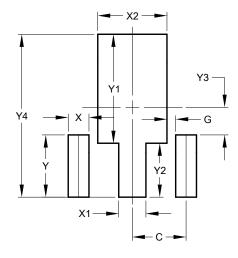




SOT89						
Dim	Min	Max	Тур			
Α	1.40	1.60	1.50			
В	0.50	0.62	0.56			
B1	0.42	0.54	0.48			
С	0.35	0.43	0.38			
D	4.40	4.60	4.50			
D1	1.62	1.83	1.733			
D2	1.61	1.81	1.71			
Е	2.40	2.60	2.50			
E2	2.05	2.35	2.20			
е	1.50					
Н	3.95 4.25 4.10					
H1	2.63	2.78				
┙	0.90	1.20	1.05			
L1	0.427 REF					
Z	0.30 REF					
All Dimensions in mm						

Suggested Pad Layout

Please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for the latest version.



Dimensions	Value
Diffictions	(in mm)
С	1.500
G	0.244
Х	0.580
X1	0.760
X2	1.933
Υ	1.730
Y1	3.030
Y2	1.500
Y3	0.770
Y4	4.530



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January 2015

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многоканальный

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