



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, CA 90638
Phone: (562) 404-4474 * Fax: (562) 404-1773
ssdi@ssdi-power.com * www.ssdi-power.com

2N5015

0.5 AMP, 1000 Volts NPN Transistor

DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

2N50 15

Screening ^{2/}

 = Not Screened
 TX = TX Level
 TXV = TXV Level
 S = S Level

Package

 /39 = TO-39
 /5 = TO-5

Family / Voltage 1000V

- FEATURES:**
- BV_{CER} 1000 volts
 - Low Saturation Voltage
 - Low Leakage at High Temperature
 - High Gain, Low Saturation
 - 200° C Operating, Gold Eutectic Die Attach
 - TX, TXV, and S-Level Screening Available

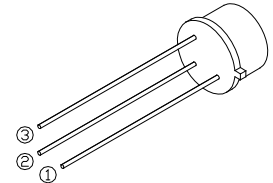
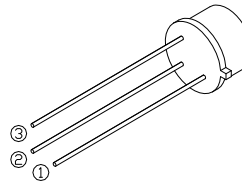
Maximum Ratings	Symbol	Value	Units
Collector – Emitter Voltage (R _{BE} = 1 kΩ)	V _{CER}	1000	V
Collector – Base Voltage	V _{CB0}	1000	V
Emitter – Base Voltage	V _{EBO}	5	V
Collector – Emitter Breakdown Voltage	BV _{CEO}	450	V
Peak Collector Current	I _C	0.5	A
Peak Base Current	I _B	250	mA
Total Device Dissipation @ T _C = 100° C Derate above 100° C	P _D	2.0 20	W mW/°C
Operating and Storage Temperature	T _{OP} , T _{STG}	-65 to +200	°C
Thermal Resistance, Junction to Case	R _{θJC}	50 (typ 22)	°C/W

Notes:

- 1/ For ordering information, price, operating curves, and availability - contact factory.
- 2/ Screening based on MIL-PRF-19500. Screening flows available on request.
- 3/ Unless otherwise specified, maximum ratings/electrical characteristics at 25°C.
- 4/ Pulse Test: Pulse Width = 300 μs, Duty Cycle = 2%

TO-39

TO-5





Solid State Devices, Inc.

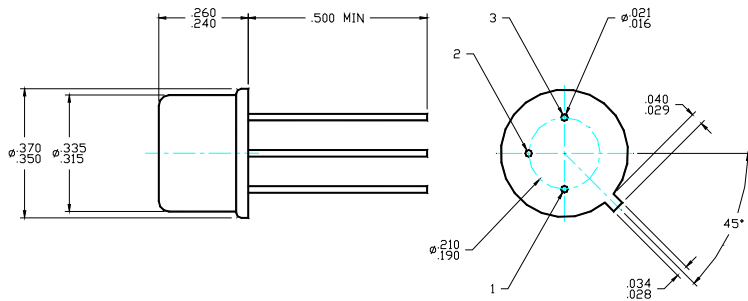
14701 Firestone Blvd * La Mirada, CA 90638
 Phone: (562) 404-4474 * Fax: (562) 404-1773
 ssdi@ssdi-power.com * www.ssdi-power.com

2N5015

Electrical Characteristic ^{3/}	Symbol	Min	Typ	Max	Units
Collector – Emitter Breakdown Voltage ($I_C = 200 \mu A_{DC}$, $R_{BE} = 1 K\Omega$)	BV_{CER}	1000	1300	—	V
Collector–Base Breakdown Voltage ($I_C = 200 \mu A_{DC}$)	BV_{CBO}	1000	-	—	V
Emitter–Base Breakdown Voltage ($I_E = 50 \mu A_{DC}$)	BV_{EBO}	5	7	—	V
Collector Cutoff Current ($V_{CB} = 760 V$) ($V_{CB} = 760 V$, $T_C = 100^\circ C$)	I_{CBO}	—	0.08 6	12 100	μA_{dc}
Emitter Cutoff Current ($V_{EB} = 4V$)	I_{EBO}	—	0.003	20	μA
DC Current Gain ^{4/} ($I_C = 5 mA_{DC}$, $V_{CE} = 10 V_{DC}$) ($I_C = 20 mA_{DC}$, $V_{CE} = 10 V_{DC}$)	h_{FE}	10 30	70 80	180	—
Collector – Emitter Saturation Voltage ^{4/} ($I_C = 20 mA_{DC}$, $I_B = 5 mA_{DC}$)	$V_{CE(Sat)}$	—	0.07	1.8	Vdc
Base – Emitter Saturation Voltage ^{4/} ($I_C = 20 mA_{DC}$, $I_B = 5 mA_{DC}$)	$V_{BE(Sat)}$	—	0.7	1.0	Vdc
Current Gain Bandwidth Product ($I_C = 20 mA_{DC}$, $V_{CE} = 10 V_{DC}$, $f = 20 MHz$)	f_T	20	25	—	MHz
Output Capacitance ($V_{CB} = 10 V_{DC}$, $I_E = 0 A_{DC}$, $f = 1.0 MHz$)	C_{ob}	—	12.5	30	pF
Delay Time Rise Time Storage Time Fall Time	t_d t_r t_s t_f	— — — —	50 100 1500 450	200 1200 3000 800	nsec
			$V_{CC} = 125 V_{DC}$, $I_C = 100 mA_{DC}$, $I_{B1} = 20 mA_{DC}$, $I_{B2} = 20 mA_{DC}$, $pw = 2 \mu s$		

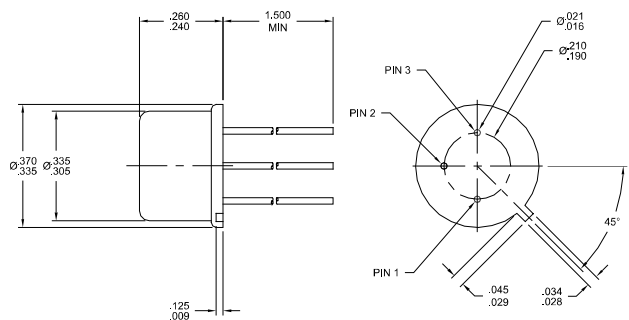
Case Outline: TO-39

PIN 1: EMITTER
 PIN 2: BASE
 PIN 3: COLLECTOR



Case Outline: TO-5

PIN 1: EMITTER
 PIN 2: BASE
 PIN 3: COLLECTOR



NOTE: All specifications are subject to change without notification.
 SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: TR0043E

DOC