



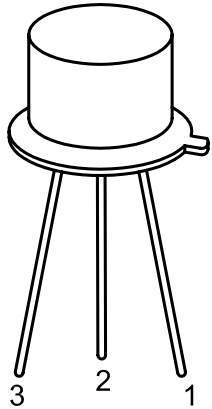
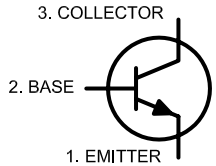
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SPC-F005.DWG

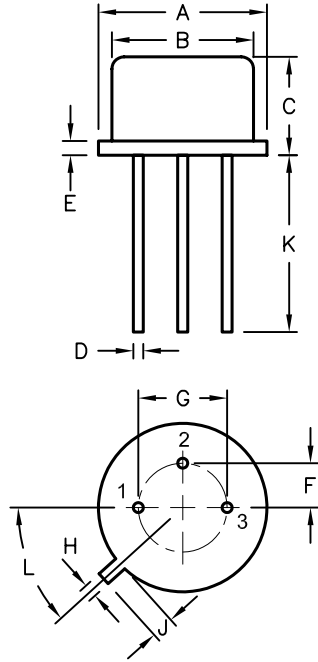
REVISIONS

DOC. NO. SPC-F005 * Effective: 7/8/02 * DCP No: 1398

DCP #	REV	DESCRIPTION	DRAWN	DATE	CHECKD	DATE	APPRVD	DATE
1262	A	RELEASED	HYO	6/13/02	JWM	6/14/02	DJC	6/14/02
1885	B	UPDATED TO ROHS COMPLIANCE	EO	02/03/06	HO	2/6/06	HO	2/6/06



1. EMITTER
2. BASE
3. COLLECTOR



Dimensions	A	B	C	D	E	F	G	H	J	K	L
Min.	8.5	7.74	6.09	0.40	-	2.41	4.82	0.71	0.73	12.7	42°
Max.	9.39	8.50	6.60	0.53	0.88	2.66	5.33	0.86	1.02	-	48°

Description: A silicon NPN transistor in a TO-39 case intended for high voltage switching and linear amplifier applications.

Electrical Characteristics: (T_A = +25°C Unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
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OFF Characteristics

Collector-Emitter Sustaining Voltage	V _{CEO(sus)}	I _C = 50mA, I _B = 0, Not 1	350	-	-	V
Collector Cut-Off Current	I _{CEO}	V _{CE} = 300V, I _B = 0	-	-	20	μA
	I _{CEX}	V _{CE} = 450V, I _{BE} = -1.5V	-	-	500	μA
	I _{CBO}	V _{CB} = 360V, I _E = 0	-	-	20	μA
Emitter Cut-Off Current	I _{EBO}	V _{EB} = 6V, I _C = 0	-	-	20	μA

ON Characteristics

DC Current Gain (Note 1)	h _{FE}	I _C = 2mA, V _{CE} = 10V	30	-	-	-
		I _C = 20mA, V _{CE} = 10V	40	-	160	-
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _C = 50mA, I _B = 4mA	-	-	0.5	V
Base-Emitter Saturation Voltage	V _{BE(sat)}	I _C = 50mA, I _B = 4mA	-	-	1.3	V

Small-Signal Characteristics

Current Gain-Bandwidth Product	f _T	I _C = 10mA, V _{CE} = 10V, f = 5MHz	15	-	-	MHz
Output Capacitance	C _{obo}	V _{CB} = 10V, I _E = 0, f = 1MHz	-	-	10	pF
Input Capacitance	C _{ibo}	V _{CB} = 5V, I _C = 0, f = 1MHz	-	-	75	pF
Small-Signal Current Gain	h _{fe}	I _C = 5mA, V _{CE} = 10V, f = 1MHz	25	-	-	
Real Part of Input Impedance	Re(h _{ie})	V _{CE} = 10V, I _C = 5mA, f = 1MHz	-	-	300	Ohm

Absolute Maximum Ratings:

- Collector-Emitter Voltage, V_{CEO} = 350V
- Collector-Base Voltage, V_{CBO} = 450V
- Emitter-Base Voltage, V_{EBO} = 7V
- Continuous Collector Current, I_C = 1A
Base Current, I_B = 500mA
- Total Device Dissipation (T_A = +25°C, Note 1), P_D = 1W
Derate above 25°C = 5.7mW/°C
- Total Device Dissipation (T_C = +25°C, Note 1), P_D = 5W
Derate above 25°C = 28.6mW/°C
- Operating Junction Temperature Range, T_J = -65° to +200°C
- Storage Temperature Range, T_{stg} = -65° to +200°C
- Thermal Resistance, Junction-to-case, R_{thJC} = 35°C/W
- Thermal Resistance, Junction-to-Ambient, R_{thJA} = 175°C/W

Note 1. Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.

CAUTION: The sustaining voltage must not be measured on a curve tracer.

DISCLAIMER:
ALL STATEMENTS AND TECHNICAL INFORMATION CONTAINED HEREIN ARE BASED UPON INFORMATION AND/OR TESTS WE BELIEVE TO BE ACCURATE AND RELIABLE. SINCE CONDITIONS OF USE ARE BEYOND OUR CONTROL, THE USER SHALL DETERMINE THE SUITABILITY OF THE PRODUCT FOR THE INTENDED USE AND ASSUME ALL RISK AND LIABILITY WHATSOEVER IN CONNECTION THEREWITH.

TOLERANCES:
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE FOR REFERENCE PURPOSES ONLY.

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CHECKED BY:	DATE:
JEFF MCVICKER	6/14/02
APPROVED BY:	DATE:
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DRAWING TITLE: Transistor, Bipolar, TO-39, NPN, Silicon			
SIZE	DWG. NO.	ELECTRONIC FILE	REV
A	2N3439	35C0702.DWG	B
SCALE: NTS	U.O.M.: Millimeters	SHEET: 1 OF 1	