multicomp

SPC-F005.DWG

REVISIONS

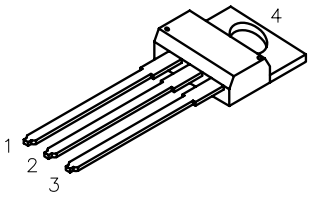
DOC. NO. SPC-F005 * Effective: 7/8/02 * DCP No: 1398

DCP #	REV	DESCRIPTION	DRAWN	DATE	CHECKD	DATE	APPRVD	DATE
1885	A	RELEASED	EO	02/03/06	HO	2/6/06	JWM	2/6/06

Description: Plastic NPN TO-220 silicon power transistor Is designed for various specific and general purpose applications such as output and driver stages of amplifiers operating at frequencies from DC to greater than 1.0MHz series shunt and switching regulators low and high frequency inverters/converters and many others.

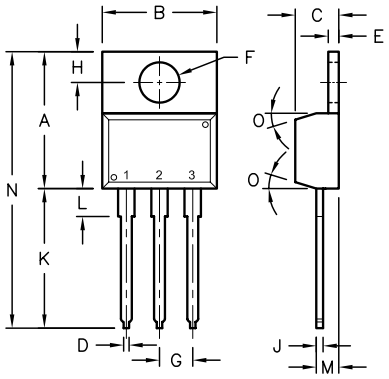
Features:
- Very low collector saturation voltage
- Excellent linearity
- Fast switching

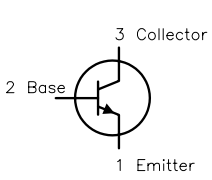
Absolute Maximum Ratings:
- Collector-Base Voltage, V_{CES} = 80V
- Collector-Emitter Voltage, V_{CEO} = 80V
- Emitter-Base Voltage, V_{EBO} = 5V
- Continuous Collector Current, I_C = 10A
- Base Current, I_B = 2A
- Total Device Dissipation (T_C = +25°C), P_D = 50W
  Derate above 25°C = 0.4W/°C
- Operating Junction Temperature Range, T_J = -55° to +150°C
- Storage Temperature Range, T_{stg} = -55° to +150°C



Pin Configuration:
1. Base
2. Collector
3. Emitter
4. Collector

RoHS Compliant





Dimensions	A	B	C	D	E	F	G	H	J	K	L	M	N	O
Min.	14.42	9.63	3.65	–	1.15	3.75	2.29	2.54	–	12.70	2.80	2.03	–	7°
Max.	16.51	10.67	4.83	0.90	1.40	3.88	2.79	3.43	0.56	14.73	4.07	2.92	31.24	

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

Parameter	Symbol	Test Conditions	Min	Max	Unit
OFF Characteristics					
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 30mA, I_B = 0	80	–	V
Collector Cut-Off Current	I_{CES}	V_{CE} = 80V, V_{BE} = 0	–	10	µA
Emitter Cut-Off Current	I_{EBO}	V_{EB} = 5V, I_C = 0	–	100	µA
ON Characteristics					
DC Current Gain	h_{FE}	V_{CE} = 1V, I_C = 2A,	35	–	–
		V_{CE} = 1V, I_C = 4A	20	–	–
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 8A, I_B = 800mA	–	1	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 8A, I_B = 800mA		1.5	V
Small-Signal Characteristics					
Current Gain-Bandwidth Product	f_T	V_{CE} = 10V, I_C = 500mA, f = 0.5MHz	15	–	MHz
Output Capacitance	C_{obo}	V_{CB} = 10V, I_E = 0, f = 1MHz	220	–	pF
Switching Characteristics					
Rise Time	t_r	I_C = 5A, I_{B1} = I_{B2} = 500mA	–	0.5	µA
Storage Time	t_s		–	1	
Fall Time	t_f		–	0.4	

TOLERANCES:

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE FOR REFERENCE PURPOSES ONLY.

DRAWN BY:	DATE:
EKLAS ODISH	02/03/06
CHECKED BY:	DATE:
HISHAM ODISH	2/6/06
APPROVED BY:	DATE:
JEFF MCVICKER	2/6/06

DRAWING TITLE: Transistor, Bipolar, Plastic, TO-220, NPN

SIZE	DWG. NO.	ELECTRONIC FILE	REV
A	D44H10	01H0544.DWG	A

SCALE: NTS | U.O.M.: Millimeters | SHEET: 1 OF 1