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SPC-F005.DWG

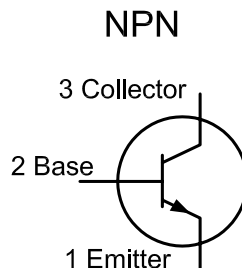
REVISIONS

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

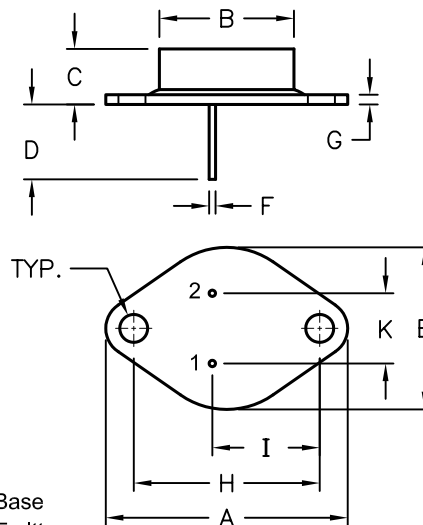
DCP #	REV	DESCRIPTION	DRAWN	DATE	CHECKD	DATE	APPRVD	DATE
1447	A	RELEASED	HO	1/21/04	JW	2/20/04	JC	2/20/04
1885	B	UPDATE TO ROHS COMPLIANT	EO	02/04/06	HO	2/6/06	HO	2/6/06

Absolute Maximum Ratings:

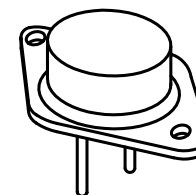
- Collector-Emitter Voltage, $V_{CE0} = 400V$
- Collector-Emitter Voltage, $V_{CEX} = 450V$
- Collector-Emitter Voltage, $V_{CEV} = 650V$
- Emitter-Base Voltage, $V_{EB} = 8V$
- Collector Current, Continuous $I_C = 15A$
- Collector Current Peak, $I_{CM} = 20A$
- Base Current Peak, $I_B = 5A$
- Total Device Dissipation ($T_C = +25^\circ C$), $P_D = 175W$
Derate above $25^\circ C = 1.0W/^\circ C$
- Operating Junction Temperature Range, $T_J = -65^\circ$ to $+200^\circ C$
- Storage Temperature Range, $T_{stg} = -65^\circ$ to $+200^\circ C$
- Thermal Resistance, Junction-to-Case, $R_{thJC} = 1.0^\circ C/W$
- Maximum Lead Temperature (During Soldering, $1/8"$ from case, 5sec), $T_L = +275^\circ C$



DIM	MIN	MAX
A	38.75	39.96
B	19.28	22.23
C	7.96	9.28
D	11.18	12.19
E	25.20	26.67
F	0.92	1.09
G	1.38	1.62
H	29.90	30.40
I	16.64	17.30
J	3.88	4.36
K	10.67	11.18



Pin 1 = Base
Pin 2 = Emitter
Collector (Case)



Description: This NPN transistor in a TO-3 package is designed for high voltage switching applications.

Applications:

- Off Line Power Supplies
- Converter Circuits
- Pulse Width Modulated Regulators Specification Feature:
- High Voltage Capability
- Fast Switching Speeds
- Low Saturation Voltage

Electrical Characteristics: ($T_C = +25^\circ C$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Max	Unit
OFF Characteristics (Note 1)					
Collector-Emitter Sustaining Voltage	$V_{CE0(sus)}$	$I_C = 200mA, I_B = 0$	400	-	V
Collector Cut-Off Current	I_{CEV}	$V_{CE} = 650V, V_{EB(off)} = -1.5V$	-	0.1	mA
		$V_{CE} = 650V, V_{EB(off)} = -1.5V, T_C = +100^\circ C$	-	1.0	mA
Emitter Cut-Off Current	I_{EBO}	$V_{EB} = 8V, I_C = 0$	-	2.0	mA
ON Characteristics (Note 1)					
DC Current Gain	h_{FE}	$I_C = 15A, V_{CE} = 3V$	8	-	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 15A, I_B = 3A$	-	1.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 15A, I_B = 3A$	-	1.5	V
Dynamic Characteristics					
Current Gain-Bandwidth Product	f_T	$V_{CE} = 20V, I_C = 20mA, f = 100MHz$	3	-	MHz
Output Capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	-	500	pF
Switching Characteristics					
Delay Time	t_d	$V_{CC} = 200V, I_C = 15A, I_{B1} = I_{B2} = 3A$ Duty Cycle $\leq 2\%$ $V_{BB} = 6V, R_L = 13.5 Ohms$	-	0.2	μs
Rise Time	t_r		-	0.6	μs
Storage Time	t_s		-	2.5	μs
Fall Time	t_f		-	0.6	μs

Note 1. Pulse Test: Pulse Width=300 μs , Duty Cycle $\leq 2\%$.

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.

DRAWN BY:	DATE:
HISHAM ODISH	1/21/04
CHECKED BY:	DATE:
JEFF MCVICKER	2/20/04
APPROVED BY:	DATE:
JOHN COLE	2/20/04

DRAWING TITLE:			
Transistor, Bipolar, Metal, TO-3, NPN			
SIZE	DWG. NO.	ELECTRONIC FILE	REV
A	2N6678	35C0742.DWG	B
SCALE: NTS		U.O.M.: Millimeters	SHEET: 1 OF 1