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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
1885	A	RELEASED	BYF	02/08/06	HO	2/6/06	JWM	2/6/06

Description:

A general purpose, medium power silicon NPN transistor in a TO-220 type package designed for switching and amplifier applications. These devices are especially designed for series and shunt regulators and as a driver and output stage of high-fidelity amplifiers.



Features:

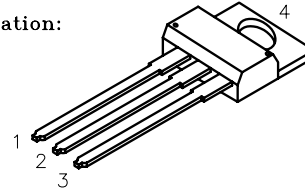
- Low Saturation Voltage.

Absolute Maximum Ratings:

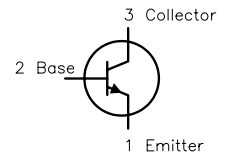
- Collector-Base Voltage, $V_{CB0} = 100V$
- Collector-Emitter Voltage, $V_{CE0} = 100V$
- Emitter-Base Voltage, $V_{EB0} = 5V$
- Continuous Collector Current = 1A
- Continuous Base Current = 0.4A
- Total Device Dissipation ($T_C = +25^\circ C$), $P_D = 30W$
Derate Linearly Above $25^\circ C = 0.24W/^\circ C$
- Total Device Dissipation ($T_A = +25^\circ C$), $P_D = 2W$
Derate Linearly Above $25^\circ C = 0.016W/^\circ C$
- Operating Junction Temperature Range, $T_{opr} = -65^\circ$ to $+150^\circ C$
- Storage Temperature Range, $T_{stg} = -65^\circ$ to $+150^\circ C$
- Lead Temperature (During Soldering, $1/8"$ (3.17mm) from case, 10sec max), $T_L = +235^\circ C$

Pin Configuration:

1. Base
2. Collector
3. Emitter
4. Collector



NPN

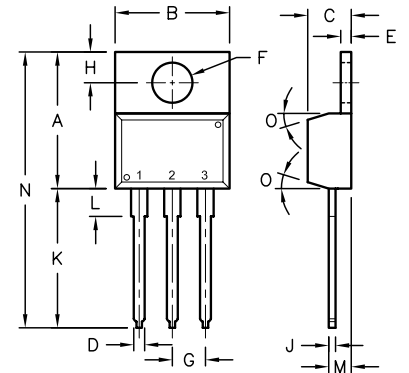


Dimensions	A	B	C	D	E	F	G	H	J	K	L	M	N	O
Min.	14.42	9.63	3.56	-	1.15	3.75	2.29	2.54	-	12.70	2.80	2.03	-	-
Max.	16.51	10.67	4.83	0.90	1.40	3.88	2.79	3.43	0.56	14.73	4.07	2.92	31.24	7

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

Parameter	Symbol	Test Conditions	Min	Max	Unit
Collector Cutoff Current	I_{CE0}	$V_{CE} = 60V, I_B = 0$	-	0.3	mA
Emitter Cutoff Current	I_{EB0}	$V_{EB} = -5V, I_C = 0$	-	1	mA
Collector-Emitter Sustaining Voltage	$V_{CE0(sus)}$	$I_C = 30mA, I_B = 0, (Note 1)$	100	-	V
DC Current Gain	h_{FE}	$I_C = .2A, V_{CE} = 4V, (Note 1)$	40	-	-
		$I_C = 1A, V_{CE} = 4V, (Note 1)$	15	75	-
Base-Emitter Voltage	$V_{BE(on)}$	$I_C = 1A, V_{CE} = 4V, (Note 1)$	-	1.3	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 1A, I_B = 125mA, (Note 1)$	-	0.7	V
Small Signal Forward Current Transfer Ratio	h_{fe}	$V_{CE} = 10V, I_C = 200mA, f = 1kHz$	20	-	-
Gain Bandwidth Product	f_T	$V_{CE} = 10V, I_C = 200mA, f = 1MHz$	3	-	MHz

Note 1. Pulsed: Pulse Duration = 300µs, Duty Factor = 0.018.



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

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APPROVED BY:	DATE:
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DRAWING TITLE:			
Medium Power Transistor, Silicon, TO-220, NPN			
SIZE	DWG. NO.	ELECTRONIC FILE	REV
A	TIP29C	35C0639.DWG	A
SCALE:	U.O.M.:	SHEET:	
NTS	MILLIMETERS	1 OF 1	