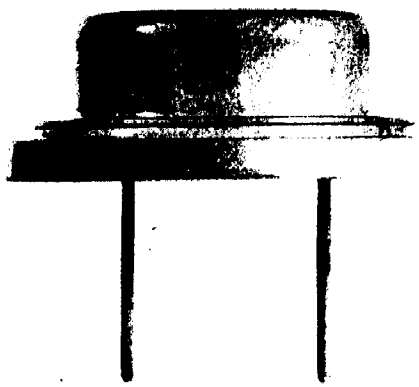
New Jersey Semi-Conductor Products, Inc.

20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

2N297 A
POWER TRANSISTOR

TELEPHONE: (973) 376-2922
(212) 227-6005
FAX: (973) 376-8960



GERMANIUM PNP POWER TRANSISTOR

2N297A is a germanium PNP alloy junction power transistor meeting military specification MIL-T-19500/36A (SigC). The maximum collector-emitter voltage rating is 50 volts, and the collector current rating is 5 amperes. . 2N297A will readily dissipate 35 watts at 25°C and 10 watts at 75°C.

High current switching, audio amplification, small motor and servo drivers are typical applications for the transistor. There are numerous other applications to regulators, power supply and oscillator circuits.

2N297A transistor features welded construction and cadmium plating with a vacuum-tight seal to insure long life and stable operation. Mechanical dimensions conform to the JEDEC TO-3 outline.

ABSOLUTE MAXIMUM RATINGS

V_{CE} Vdc	V_{CB} Vdc	I_C Adc	P_c W	$T_{storage}$ °C	T_j °C
50	60	5.0	35	−65 to +95	95

Thermal Resistance: 1.5°C/W typical and 2°C/W maximum.

ELECTRICAL CHARACTERISTICS (25°C mounting base temperature unless otherwise specified)

CHARACTERISTIC	SYMBOL	MIN.	MAX.	UNIT
DC Current Gain	h_{FE}			
$V_{CE} = -2$ Vdc; $I_C = -0.5$ Adc		40	100	—
$V_{CE} = -2$ Vdc; $I_C = -2.0$ Adc		20	—	—
Transconductance				
$V_{CE} = -2$ Vdc; $I_C = -2.0$ Adc	g_{FE}	1.33	—	mhos
Collector Saturation Voltage				
$I_C = -2$ Adc; $I_B = -200$ mAdc	$V_{CE(S)}$	—	−1.0	Vdc
Collector Cutoff Current	I_{CBO}			
$V_{CB} = -2$ Vdc; $I_E = 0$		—	−200	μAdc
$V_{CB} = -60$ Vdc; $I_E = 0$		—	−3.0	mAdc
$V_{CB} = -30$ Vdc; $I_E = 0$; $T_B = 71$°C		—	−6.0	mAdc
Emitter Cutoff Current	I_{EBO}			
$V_{EB} = -40$ Vdc; $I_C = 0$			−3.0	mAdc

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ELECTRICAL CHARACTERISTICS (Continued)

CHARACTERISTIC	SYMBOL	MIN.	MAX.	UNIT
Collector-Emitter Breakdown Voltage				
$I_C = -300$ mAdc; $I_B = 0$	BV_{CEO}	−40	—	Vdc
Collector-Emitter Breakdown Voltage				
$I_C = -300$ mAdc; $V_{BE} = 0$	BV_{CES}	−50	—	Vdc
Floating Potential				
$V_{CB} = -60$ Vdc	V_{fl}	—	180	mVdc
Alpha Cutoff Frequency				
$V_{CE} = -14$ Vdc; $I_C = -0.5$ Adc	$f_{\alpha c}$	5	—	kc

LIFE TEST

Storage Life Test = 1000 hours at + 95°C minimum.

END OF LIFE

I_{EBO} at $V_{EB} = -40$ Vdc; −6.0 mAdc maximum.
I_{CBO} at $V_{CB} = -60$ Vdc; −6.0 mAdc maximum.
h_{FE} at $I_C = -2.0$ Adc; 13.3 minimum