New Jersey Semi-Conductor Products, Inc.

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

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

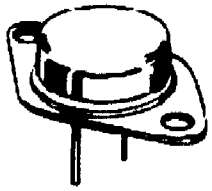
2N4277 (GERMANIUM)

PNP germanium power transistor designed for high current applications requiring high-gain and low saturation voltages.

MAXIMUM RATINGS

Rating	Symbol	2N4277	Unit
Collector-Emitter Voltage	V_{CEO}	20	Vdc
Collector-Emitter Voltage	V_{CES}	30	Vdc
Collector-Base Voltage	V_{CB}	30	Vdc
Emitter-Base Voltage	V_{EB}	20	Vdc
Collector Current — Continuous *	I_C*	60	Adc
Total Device Dissipation @ T_C = 25°C Derate above 25°C	P_D	170 2.0	Watts W/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +11	°C

Collector connected to Case



(TO-3)

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	θ_{JC}	0.5	°C/W

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage† (I_C = 1.0 Adc, I_B = 0)	BV_{CEO}†	20	-	Vdc
Collector-Emitter Breakdown Voltage (I_C = 300 mAdc, V_{BE} = 0)	BV_{CES}	30	-	Vdc
Collector Cutoff Current (V_{CE} = 20 Vdc, $V_{BE(off)}$ = 2.0 Vdc, T_C = +71°C)	I_{CEX}	-	15	mAdc
Collector Cutoff Current (V_{CB} = 2.0 Vdc, I_E = 0) (V_{CB} = 30 Vdc, I_E = 0)	I_{CBO}	- -	0.2 4.0	mAdc
Emitter Cutoff Current (V_{BE} = 20 Vdc, I_C = 0) (V_{BE} = 20 Vdc, I_C = 0, T_C = +71°C)	I_{EBO}	- -	4.0 15	mAdc
ON CHARACTERISTICS				
DC Current Gain† (I_C = 15 Adc, V_{CE} = 2.0 Vdc) (I_C = 60 Adc, V_{CE} = 2.0 Vdc)	h_{FE}†	80 15	180 -	-
Collector-Emitter Saturation Voltage† (I_C = 15 Adc, I_B = 1.0 Adc) (I_C = 60 Adc, I_B = 6.0 Adc)	$V_{CE(sat)}$†	- -	0.15 0.3	Vdc
Base-Emitter Saturation Voltage† (I_C = 15 Adc, I_B = 1.0 Adc) (I_C = 60 Adc, I_B = 6.0 Adc)	$V_{BE(sat)}$†	-	0.6 1.0	Vdc
SMALL SIGNAL CHARACTERISTICS				
Common-Emitter Cutoff Frequency (I_C = 15 Adc, V_{CE} = 2.0 Vdc)	$f_{\alpha e}$	2.0	-	kHz

† To avoid excessive heating of the collector junction, perform test with pulse method.