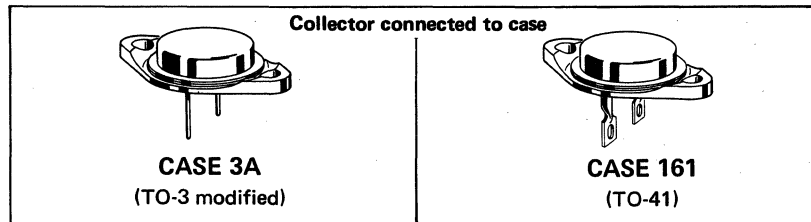


2N4276 (GERMANIUM)

thru
2N4283

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



For units with lugs attached, specify devices MP4276 etc. (TO-41 package)

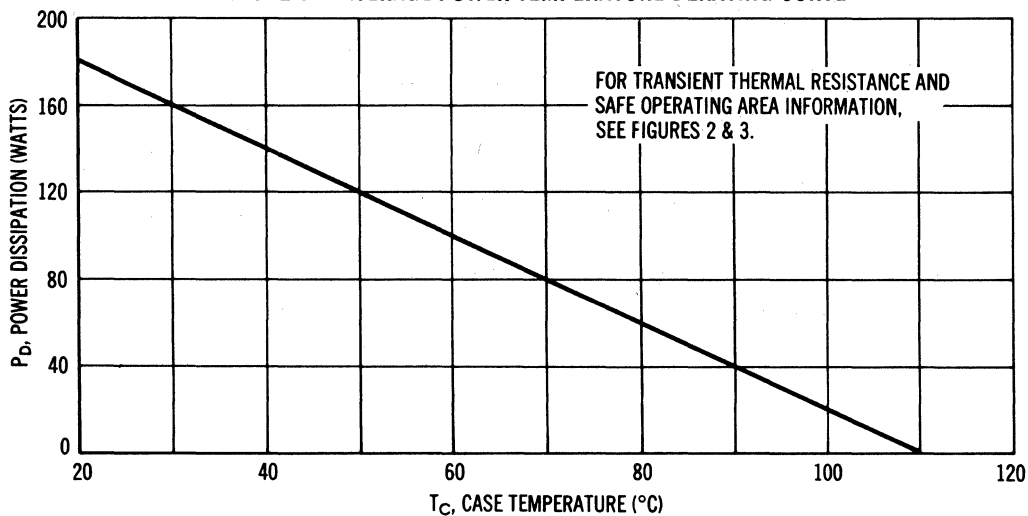
MAXIMUM RATINGS

Rating	Symbol	2N4276 2N4277	2N4278 2N4279	2N4280 2N4281	2N4282 2N4283	Unit
Collector-Emitter Voltage	V_{CEO}	20	30	45	60	Vdc
Collector-Emitter Voltage	V_{CES}	30	45	60	75	Vdc
Collector-Base Voltage	V_{CB}	30	45	60	75	Vdc
Emitter-Base Voltage	V_{EB}	20	25	30	40	Vdc
Collector Current - Continuous *	I_C^*	← 60 →				Adc
Total Device Dissipation @ $T_C = 25^\circ C$	P_D	← 170 →				Watts
Derate above $25^\circ C$		← 2.0 →				W/ $^\circ C$
Operating and Storage Junction Temperature Range	T_J, T_{stg}	← -65 to +110 →				$^\circ C$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	θ_{JC}	← 0.5 →	$^\circ C/W$

FIGURE 1 - AVERAGE POWER-TEMPERATURE DERATING CURVE



*JEDEC Registered Values, For True Capability See Figure 3.

2N4276 thru 2N4283 (continued)

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)	2N4276, 2N4277 2N4278, 2N4279 2N4280, 2N4281 2N4282, 2N4283	BV _{CEO} †	20 30 45 60	- - - -	Vdc
Collector-Emitter Breakdown Voltage (I _C = 300 mAdc, V _{BE} = 0)	2N4276, 2N4277 2N4278, 2N4279 2N4280, 2N4281 2N4282, 2N4283	BV _{CES}	30 45 60 75	- - - -	Vdc
Floating Potential (V _{CB} = 30 Vdc, I _E = 0)	2N4276, 2N4277	V _{EBF}	-	0.5	Vdc
(V _{CB} = 45 Vdc, I _E = 0)	2N4278, 2N4279		-	0.5	
(V _{CB} = 60 Vdc, I _E = 0)	2N4280, 2N4281		-	0.5	
(V _{CB} = 75 Vdc, I _E = 0)	2N4282, 2N4283		-	0.5	
Collector Cutoff Current (V _{CE} = 20 Vdc, V _{BE(off)} = 2.0 Vdc, T _C = +71°C)	2N4276, 2N4277	I _{CEX}	-	15	mAdc
(V _{CE} = 30 Vdc, V _{BE(off)} = 2.0 Vdc, T _C = +71°C)	2N4278, 2N4279		-	15	
(V _{CE} = 45 Vdc, V _{BE(off)} = 2.0 Vdc, T _C = +71°C)	2N4280, 2N4281		-	15	
(V _{CE} = 60 Vdc, V _{BE(off)} = 2.0 Vdc, T _C = +71°C)	2N4282, 2N4283		-	15	
Collector Cutoff Current (V _{CB} = 2.0 Vdc, I _E = 0)		I _{CBO}	-	0.2	mAdc
(V _{CB} = 30 Vdc, I _E = 0)	2N4276, 2N4277		-	4.0	
(V _{CB} = 45 Vdc, I _E = 0)	2N4278, 2N4279		-	4.0	
(V _{CB} = 60 Vdc, I _E = 0)	2N4280, 2N4281		-	4.0	
(V _{CB} = 75 Vdc, I _E = 0)	2N4282, 2N4283		-	4.0	
Emitter Cutoff Current (V _{BE} = 20 Vdc, I _C = 0)	2N4276, 2N4277	I _{EBO}	-	4.0	mAdc
(V _{BE} = 20 Vdc, I _C = 0, T _C = +71°C)			-	15	
(V _{BE} = 25 Vdc, I _C = 0)	2N4278, 2N4279		-	4.0	
(V _{BE} = 25 Vdc, I _C = 0, T _C = +71°C)			-	15	
(V _{BE} = 30 Vdc, I _C = 0)	2N4280, 2N4281		-	4.0	
(V _{BE} = 30 Vdc, I _C = 0, T _C = +71°C)			-	15	
(V _{BE} = 40 Vdc, I _C = 0)	2N4282, 2N4283		-	4.0	
(V _{BE} = 40 Vdc, I _C = 0, T _C = +71°C)			-	15	
ON CHARACTERISTICS					
DC Current Gain† (I _C = 15 Adc, V _{CE} = 2.0 Vdc)	2N4276, 2N4278, 2N4280, 2N4282 2N4277, 2N4279, 2N4281, 2N4283	h _{FE} †	60 120 15	180 240 -	-
(I _C = 60 Adc, V _{CE} = 2.0 Vdc)					
Collector-Emitter Saturation Voltage† (I _C = 15 Adc, I _B = 1.0 Adc)		V _{CE(sat)} †	-	0.15	Vdc
(I _C = 60 Adc, I _B = 6.0 Adc)			-	0.3	
Base-Emitter Saturation Voltage† (I _C = 15 Adc, I _B = 1.0 Adc)		V _{BE(sat)} †	-	0.6	Vdc
(I _C = 60 Adc, I _B = 6.0 Adc)			-	1.0	
SMALL SIGNAL CHARACTERISTICS					
Common-Emitter Cutoff Frequency (I _C = 15 Adc, V _{CE} = 2.0 Vdc)		f _{αe}	2.0	-	kHz

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