

2N6064 (GERMANIUM)

2N6065

2N6066

PNP GERMANIUM POWER TRANSISTORS

... designed for high-voltage switching applications.

- Low Leakage Current – $I_{CBO} = 3.0 \text{ mAdc (Max)}$
- Low Collector-Emitter Saturation Voltage – $V_{CE(sat)} = 0.8 \text{ Vdc (Max) @ } I_C = 10 \text{ Adc}$
- Switching Times – $t_{ON} = 10 \mu\text{s @ } 3.0 \text{ Adc}$
 $t_{OFF} = 15 \mu\text{s @ } 3.0 \text{ Adc}$

10 AMPERE
POWER TRANSISTORS

PNP GERMANIUM
ALLOY DIFFUSED

80-120-160 VOLTS
56 WATTS

*MAXIMUM RATINGS

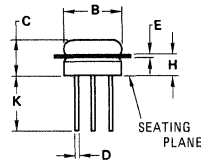
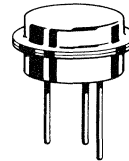
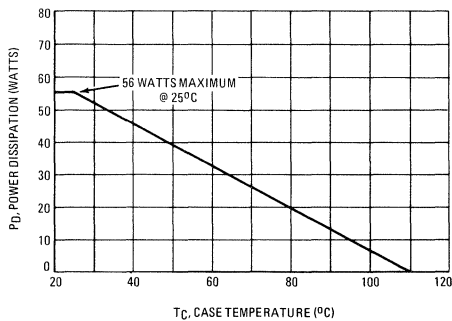
Rating	Symbol	2N6064	2N6065	2N6066	Unit
Collector-Emitter Voltage	V_{CEO}	80	120	160	Vdc
Collector-Base Voltage	V_{CB}	80	120	160	Vdc
Emitter-Base Voltage	V_{EB}	← 5.0 →			Vdc
Collector Current – Continuous	I_C	← 10 →			Adc
Base Current	I_B	← 5.0 →			Adc
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	← 56 →			Watts
		← 0.67 →			W/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{stg}	← -65 to +110 →			$^\circ\text{C}$

THERMAL CHARACTERISTICS

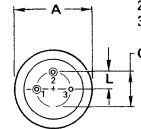
Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	θ_{JC}	1.50	$^\circ\text{C/W}$

*Indicates JEDEC Registered Data.

FIGURE 1 – POWER TEMPERATURE DERATING CURVE



STYLE 1:
PIN 1. EMITTER
2. BASE
3. COLLECTOR



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	14.86	16.51	0.585	0.650
B	12.32	12.57	0.485	0.495
C	6.10	7.62	0.240	0.300
D	0.69	0.84	0.027	0.033
E	0.51	1.02	0.020	0.040
G	7.16 BSC		0.282 BSC	
H	4.19	4.70	0.165	0.185
K	9.14	11.18	0.360	0.440
L	3.58 BSC		0.141 BSC	

CASE 8

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

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Sustaining Voltage (1) (I _C = 100 mA dc, I _B = 0)	BV _{CEO(sus)}	80 120 160	—	Vdc
Emitter Floating Potential (V _{CE} = 80 Vdc, I _B = 0)	V _{EBF}	—	1.0	Vdc
(V _{CE} = 120 Vdc, I _B = 0)		—	1.0	
(V _{CE} = 160 Vdc, I _B = 0)		—	1.0	
Collector Cutoff Current (V _{CE} = 80 Vdc, V _{BE(off)} = 0.2 Vdc, T _C = +100°C)	I _{CEX}	—	35	mA dc
(V _{CE} = 120 Vdc, V _{BE(off)} = 0.2 Vdc, T _C = +100°C)		—	35	
(V _{CE} = 160 Vdc, V _{BE(off)} = 0.2 Vdc, T _C = +100°C)		—	35	
Collector Cutoff Current (V _{CB} = 80 Vdc, I _E = 0)	I _{CBO}	—	3.0	mA dc
(V _{CB} = 120 Vdc, I _E = 0)		—	3.0	
(V _{CB} = 160 Vdc, I _E = 0)		—	3.0	
Emitter Cutoff Current (V _{BE} = 5.0 Vdc, I _C = 0)	I _{EBO}	—	50	mA dc

ON CHARACTERISTICS (1)

DC Current Gain (I _C = 3.0 A dc, V _{CE} = 2.0 Vdc)	h _{FE}	20	50	—
Collector-Emitter Saturation Voltage (I _C = 10 A dc, I _B = 1.0 A dc)	V _{CE(sat)}	—	0.8	Vdc
Base-Emitter Saturation Voltage (I _C = 10 A dc, I _B = 1.0 A dc)	V _{BE(sat)}	—	1.2	Vdc

DYNAMIC CHARACTERISTICS

Current-Gain-Bandwidth Product (I _C = 0.5 A dc, V _{CE} = 12 Vdc)	f _T	300	—	kHz
---	----------------	-----	---	-----

SWITCHING CHARACTERISTICS (SEE FIGURE 8)

Turn-On Time (I _C = 3.0 A dc, I _{B1} = 0.3 A dc, V _{CC} = 30 Vdc)	t _{on}	—	10	μs
Turn-Off Time (I _C = 3.0 A dc, I _{B1} = I _{B2} = 0.3 A dc, V _{CC} = 30 Vdc)	t _{off}	—	15	μs

(1) Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%.

*Indicates JEDEC Registered Data.

FIGURE 2 – THERMAL RESPONSE

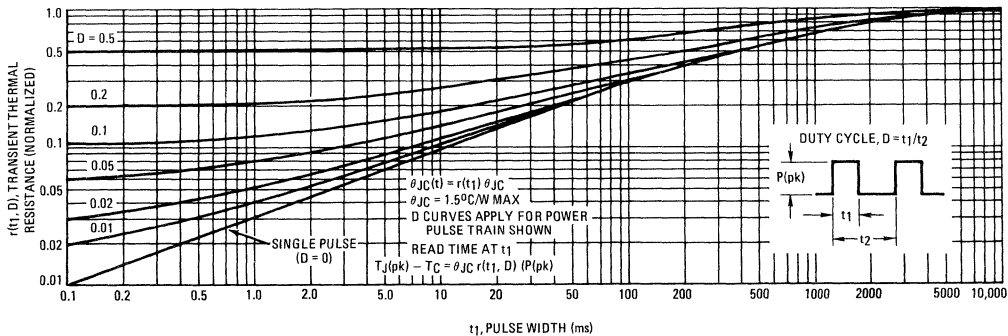


FIGURE 9 – DC CURRENT GAIN

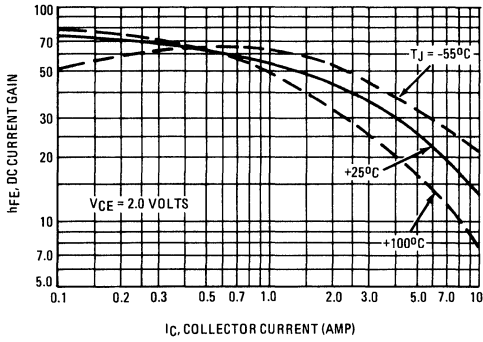


FIGURE 10 – COLLECTOR SATURATION REGION

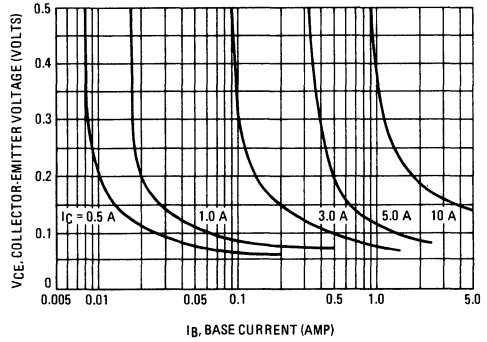


FIGURE 11 – "ON" VOLTAGES

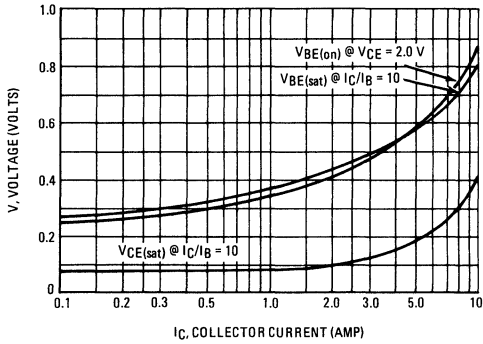


FIGURE 12 – TEMPERATURE COEFFICIENTS

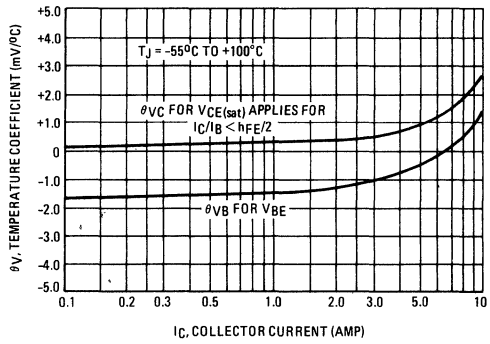


FIGURE 13 – EFFECTS OF BASE-EMITTER RESISTANCE

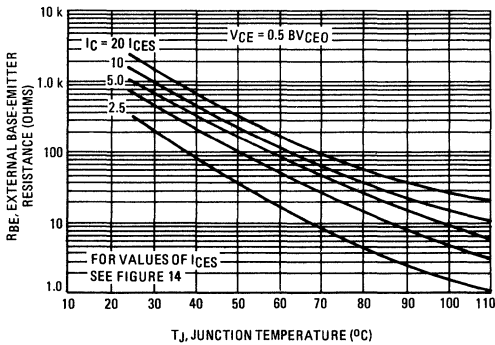


FIGURE 14 – COLLECTOR CUTOFF REGION

