

2N6702, 2N6703, 2N6704

High-Current, Silicon N-P-N
VERSAWATT Transistors

MAXIMUM RATINGS, Absolute-Maximum Values:

	2N6702	2N6703	2N6704	
• V_{CEV}	140	160	180	V
• $V_{BE} = -1.5$ V	90	110	130	V
• V_{CEO}		7		V
• V_{CEO}	5	5	4	A
• I_C		7		A
• I_C		10		A
• I_B		5		A
• P_T		50		W
• T_C up to 25°C		0.4		W/°C
• T_C above 25°C		-65 to 150		°C
• T_{stg}, T_J				°C
• T_L		235		°C
At distance $\geq 1/8$ in. (3.16 mm) from seating plane for 10 s max.				

*In accordance with JEDEC registration data.

ELECTRICAL CHARACTERISTICS, at Case Temperature $T_C = 25^\circ\text{C}$ Unless Otherwise Specified

CHARACTERISTIC	TEST CONDITIONS				LIMITS						UNITS
	VOLTAGE		CURRENT		2N6702		2N6703		2N6704		
	V dc	A dc	I_C	I_B	Min.	Max.	Min.	Max.	Min.	Max.	
* I_{CEV}	140	-1.5			-	100	-	-	-	-	μA
	180	-1.5			-	-	-	100	-	-	
	180	-1.5			-	-	-	-	100	-	
$T_C = 125^\circ\text{C}$	140	-1.5			-	1	-	-	-	-	mA
	180	-1.5			-	-	-	1	-	-	
	180	-1.5			-	-	-	-	1	-	
* I_{EBO}		-7	0		-	100	-	100	-	100	μA
* $V_{CEO(sus)b}$			0.01 ^a	0	90	-	110	-	130	-	V
* h_{FE}	2		0.2 ^a		30	-	30	-	30	-	
	2		4 ^a		-	-	-	-	20	-	
	2		5 ^a		20	-	20	-	-	-	
* $V_{BE(sat)}$			4 ^a	0.4	-	-	-	-	-	1.4	V
			5 ^a	0.5	-	1.5	-	1.5	-	-	
* $V_{CE(sat)}$			4 ^a	0.4	-	-	-	-	-	0.7	V
			5 ^a	0.5	-	0.8	-	0.8	-	-	
			7 ^a	0.7	-	1.5	-	1.5	-	1.5	
* I_S/b	20		2.5		1	-	1	-	1	-	s
* $ h_{fe} $ $f = 5$ MHz	10		0.5		10	40	10	40	10	40	
* f_T	10		0.5		50	200	50	200	50	200	MHz
* C_{obo} $f = 0.1$ MHz	10 ^c				50	150	50	150	50	150	pF
* t_d^d		-4	4	0.4	-	-	-	-	-	0.1	μs
			5	0.5	-	0.1	-	0.1	-	-	
* t_r^d		-4	4	0.4	-	-	-	-	-	0.25	μs
			5	0.5	-	0.25	-	0.25	-	-	
* t_s^d		-4	4	0.4 ^e	-	-	-	-	-	1	μs
			5	0.5 ^e	-	1	-	1	-	-	
* t_f^d		-4	4	0.4 ^e	-	-	-	-	-	0.5	μs
			5	0.5 ^e	-	0.5	-	0.5	-	-	
* $R_{\theta JC}$	4		5		-	2.5	-	2.5	-	2.5	°C/W

* In accordance with JEDEC registration data.
^a Pulsed: pulse duration = 300 μs , duty factor $\leq 2\%$.
^b CAUTION: The sustaining voltage $V_{CEO(sus)}$ MUST NOT be measured on a curve tracer.

^c V_{CB} value.
^d $V_{CC} = 70$ V, $t_p = 20$ μs
^e $I_{B1} = -I_{B2}$

