

2N5239, 2N5240
High-Voltage, Silicon N-P-N Transistors

MAXIMUM RATINGS, Absolute-Maximum Values:

	2N5239	2N5240	
*V _{CEO}	300	375	V
V _{CEA(SUS)} R _{thc} ≤ 50 Ω	250	350	V
*V _{CEO(SUS)}	225	300	V
*V _{EB0}		6	V
*I _C		5	A
*I _B		2	A
*P _T : T _c ≤ 25°C and V _{CE} ≤ 125 V	100		W
T _c ≤ 25°C and V _{CE} ≤ 125 V		See Fig. 1	
T _c > 25°C and V _{CE} > 125 V		See Fig. 1	
*T _{stg} , T _J	-65 to 200		°C
T _L At distance ≥ 1/32 in. (0.8 mm) from seating plane for 10 s max.	230		°C

* In accordance with JEDEC registration data

ELECTRICAL CHARACTERISTICS, At Case Temperature (T_c) = 25°C unless otherwise specified

CHARACTERISTIC	TEST CONDITIONS				LIMITS				UNITS
	VOLTAGE V dc		CURRENT A dc		2N5239		2N5240		
	V _{CE}	V _{BE}	I _C	I _B	Min.	Max.	Min.	Max.	
I _{CEO}	200			0	—	5	—	2	mA
I _{CEV}	300	-1.5			—	4	—	—	
	375	-1.5			—	—	—	2	
(T _c = 150°C)	300	-1.5			—	5	—	3	
I _{EB0} (V _{EB} = 5 V) (V _{EB} = 6 V)			0		—	5	—	1	V
			0		—	20	—	20	
V _{EB0}				0.02	6	—	6	—	
V _{CEO(SUS)} ^a			0.2 ^b		225	—	300	—	
V _{CEA(SUS)} ^a (R _{thc} ≤ 50 Ω)			0.2 ^b		250	—	350	—	
h _{FE}	10		0.4 ^b		20	80	20	80	V
	10		2 ^b		20	80	20	80	
	10		4.5 ^b		5	—	5	—	
V _{BE}	10		2 ^b		—	3	—	3	
V _{CE} (sat)			2 ^b	0.25	—	2.5	—	2.5	V
			4.5 ^b	1.125	—	5	—	5	
I _{SM} (t = 1 s)	125				0.8	—	0.8	—	A
h _{FE} (f = 1 MHz)	10		0.2		2	—	2	—	
h _{FE} (f = 1 kHz)	10		4		20	—	20	—	
f _T	10		0.2		2	—	2	—	MHz
C _{ob0} (f = 1 MHz)	10 ^c		0		—	250	—	250	pF
R _{thc}					—	1.75	—	1.75	°C/W

* In accordance with JEDEC registration data.

^a CAUTION: The sustaining voltages V_{CEO(SUS)} and V_{CEA(SUS)} MUST NOT be measured on a curve tracer.

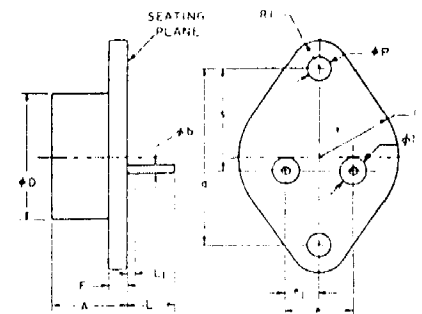
^b Pulsed; pulse duration ≤ 350 μs, duty factory ≤ 2%.

^c V_{CEB} value.

Dimensional Outlines

TO-204AA

200-mil diameter pin isolation



Notes:

1: φb applies between L₁ and L. Diameter is uncor in L₁.

SYMBOL	INCHES		MILLIMETERS		N
	MIN.	MAX.	MIN.	MAX.	
A	0.250	0.450	6.35	11.35	
φb	0.038	0.043	0.96	1.092	
φb ₁	0.200 NOM.		5.08 NOM.		
φD	—	0.875	—	22.22	
e	0.420	0.440	10.67	11.17	
c	0.205	0.225	5.21	5.71	
F	0.060	0.135	1.53	3.42	
L	0.312	0.500	7.93	12.70	
L ₁	—	0.050	—	1.27	
φP	0.151	0.161	3.836	4.089	
q	1.177	1.197	29.90	30.40	
R	0.495	0.525	12.58	13.33	
R ₁	0.131	0.188	3.33	4.77	
s	0.655	0.675	16.64	17.14	

2: These dimensions should be measured at point in. (1.270 mm) to 0.05 in. (1.397 mm) below plane. When gage is not used, measurement made at seating plane.