

New Jersey Semi-Conductor Products, Inc.

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

2SC1011/2SC2344

PNP/NPN Epitaxial Planar Silicon Transistors
High-Voltage Switching, AF Power Amp,
100W Output Predriver Application

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Maximum Ratings at $T_a=25^\circ\text{C}$

Parameter	Symbol	Value	unit
Collector-to-Base Voltage	V_{CBO}	(-) 180	V
Collector-to-Emitter Voltage	V_{CEO}	(-) 160	V
Emitter-to-Base Voltage	V_{EBO}	(-) 6	V
Collector Current	I_C	(-) 1.5	A
Collector Current (Pulse)	I_{CP}	(-) 3	A
Collector Dissipation	P_C	25	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	- 55, to + 150	$^\circ\text{C}$

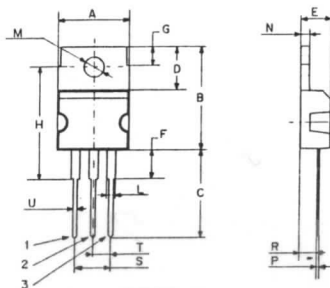
Electrical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	Test Conditions	min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-) 120\text{V}, I_E = 0$			(-) 10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-) 4\text{V}, I_C = 0$			(-) 10	μA
DC Current Gain	h_{FE}	$V_{CE} = (-) 5\text{V}, I_C = (-) 300\text{mA}$	60 ※		200 ※	
Gain-Bandwidth Product	f_T	$V_{CE} = (-) 10\text{V}, I_C = (-) 50\text{mA}$		100		MHz
Output Capacitance	C_{ob}	$V_{CB} = (-) 10\text{V}, f = 1\text{MHz}$		(30)		pF
				23		pF
Base-to-Emitter Voltage	V_{BE}	$V_{CE} = (-) 5\text{V}, I_C = (-) 10\text{mA}$		(-) 1.5		V
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-) 500\text{mA}, I_B = (-) 50\text{mA}$		(- 0.5)		V
				0.3		V
C-B Breakdown Voltage	$V_{(BR) CBO}$	$I_C = (-) 1\text{mA}, I_E = 0$	(-) 180			V
C-E Breakdown Voltage	$V_{(BR) CEO}$	$I_C = (-) 1\text{mA}, I_{BE} = \infty$	(-) 160			V
E-B Breakdown Voltage	$V_{(BR) EBO}$	$I_E = (-) 1\text{mA}, I_C = 0$	(-) 6			V
Turn-ON Time	t_{on}	See specified Test Circuit.	(0.29)	0.15		μs
Fall Time	t_f	"	(0.19)	0.48		μs
Storage Time	t_{stg}	"	(0.48)	0.81		μs

※ The 2SA1011/2SC2344 are classified by 300mA h_{FE} as follows :

60	D	120	100	E	200
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MECHANICAL DATA



	DIMENSIONS			
	mm		inches	
	min	max	min	max
A	10	10.4	0.393	0.409
B	15.2	15.9	0.598	0.626
C	12.7	13.7	0.500	0.539
D	6.2	6.6	0.244	0.260
E	4.4	4.6	0.173	0.181
F	3.5	5.5	0.137	0.216
G	2.65	2.95	0.104	0.116
H	17.6 typ.		0.692 typ.	
L	1.14	1.7	0.044	0.067
M	3.75	3.85	0.147	0.151
N	1.23	1.32	0.048	0.051
P	0.41	0.64	0.016	0.025
R	2.4	2.72	0.094	0.107
S	4.95	5.15	0.194	0.203
T	2.4	2.7	0.094	0.106
U	0.61	0.94	0.024	0.037

pin 1: Base - pin 2: Collector - pin 3: Emitter

NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

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