



Consumer Series

Type No.	Case Style	V _{CE} [*] V _{CB0} (V) Min	V _{CE0} (V) Min	V _{EB0} (V) Min	I _{CB0} @ V _{CB} (mA) Max	H _{FE} @ I _C & V _{CE} (mA) (V) Min Max	V _{CE(SAT)} (V) & Max	V _{BE(SAT)} V _{BE(ON)} [*] (V) Min Max	I _C (mA) Min Max	C _{ob} (pF) Max	f _T (MHz) Min Max	t _{off} (ns) Max	NF (dB) Max	Test Condition	Process No.
CS9011	TO-92 (92)	40	30	5	100	39 198 1 5	0.3	0.75 10	1	3.5	150		4	(Note 4)	23
CS9012	TO-92 (92)	40	25	5	100	64 202 50 1	0.6	1.2 300							68
CS9013	TO-92 (92)	40	25	5	100	64 202 50 1	0.6	1.2 300							10
CS9014	TO-92 (92)	50	40	5	50	60 600 1 5	0.3	1 10	10	4.5	100		10	(Note 5)	07
CS9015	TO-92 (92)	50	40	5	50	60 600 1 5	0.3	1 10	10	6.0	100		10	(Note 5)	62
CS9016	TO-92 (92)	30	20	5	50	28 146 1 5	0.3	1 10	1	1.6	300		5	(Note 6)	49
CS9018	TO-92 (92)	30	15	5	50	28 146 1 5	0.3	1 10	2	1.7	400				43
ED1402	TO-92 (92)	35	30	4	10	110 810 2 5							10	(Note 7)	11
ED1502	TO-92 (92)	25	20	4	10	86 210 1 10			5		350				49
ED1602	TO-92 (92)	35	30	4	10	70 475 2 5							10	(Note 7)	69
ED1702	TO-92 (92)	30*	25	5	100*	40 0.5A 1 106 300 100 1	0.4	500							37
ED1802	TO-92 (92)	30*	25	5	100*	40 0.5A 1 106 300 100 1	0.4	500							77
SA733	TO-92 (94)	60	50	50	100	90 600 1 6	0.3	100 100	10	6	150		20		69
SA1015	TO-92 (94)	50	50	5	100	70 400 2 6 25 150 6	0.3	100 100		7			10		69

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Type No.	Case Style	V _{CE} [*]		V _{BE} (V) Min	I _{CE} [*] (nA) Max	h _{FE} @ I _C & V _{CE} (mA) (V)		V _{BE(SAT)} & V _{BE(ON)} [*] (V) (V)		I _C (mA) Min Max	C _{ob} (pF) Max	f _T (MHz) @ I _C (mA)		t _{off} (ns) Max	NF (dB) Max	Test Condition	Process No.
		Min	Max			Min	Max	Min	Max			Min	Max				
SC945	TO-92 (94)	60	50	5	100	90	600	1	6	0.3	100	4	150	10	20		11
SC1815	TO-92 (94)	60	50	5	100	70	400	2	6	0.3	100	4			10		11
NA11	TO-92	25	20	5	1 μA	30	350	100	3	0.5	1.0	4.5	50	100		(Note 2)	10
NA12	TO-92	25	20	5	1 μA	30	350	100	3	0.5	1.0	7	50	100		(Note 2)	68
NA31	TO-92	35	30	5	1 μA	30	350	300	5	0.5	1.2	10	20	300		(Note 2)	37
NA32	TO-92	35	30	5	1 μA	30	350	300	5	0.5	1.2	17	20	300		(Note 2)	77
NB111	TO-92	40	35	6	100	100	350	15	5	0.4	0.95	4	100	15		(Note 3)	11
NB121	TO-92	40	35	6	100	100	350	15	5	0.4	0.95	6	100	15		(Note 3)	69
NR421	TO-92 (96)	35	30	3	100	20	240	2	5	0.3	0.95	1.3	450	2		(Note 1)	42
NR431	TO-92	18	15	3	100	20	240	1	5	0.3	0.95	1.7	350	1		(Note 1)	43
SS8050	TO-92 (92)	40	25	6	100	45	300	5	1	0.5	1.2	9	100	50			37
SS8550	TO-92 (92)	40	25	6	100	45	300	5	1	0.5	1.2	15	100	50			77

*Case style means available in EBC or ECB pinouts.

TEST CONDITIONS:

- Note 1: I_C/I_B = 20
- Note 2: I_C/I_B = 40
- Note 3: I_C/I_B = 50
- Note 4: I_C = 1 mA, f = 1 MHz
- Note 5: I_C = 100 μA, f = 5 kHz
- Note 6: I_C = 1 mA, f = 100 MHz
- Note 7: I_C = 200 μA, f = 2 kHz

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HFE Bins												
A	B	C	D	E	F	G	H	I	K	L	M	N
CS9011				39-60*	54-80	72-108	97-146	132-198				
CS9012			64-91*	78-112	96-135	118-166	144-202*					
CS9013			64-91*	78-112	96-135	118-166	144-202*					
CS9014	60-150	200-600										
CS9015	60-150	200-600										
CS9016			28-45*	39-60	54-80	72-108	97-146*					
CS9018			28-45*	39-60	54-80	72-108	97-146*					
ED1402	110-165*	202-318	290-450	410-810*								
ED1502	36-55*	66-100	84-127	105-210*								
ED1602	70-105*	125-190	170-260	223-475*								
ED1702									106-150*	132-188	170-233	213-300*
ED1802									106-150*	132-188	170-233	213-300*

*Orders must contain at least two adjacent bins.

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HFE Bins					
OR	YE	GR	B	C	D
SA1015	70-140*	200-400			
SC1815	70-140*	200-400			
SS8050			85-160	120-200	160-300*
SS8550			85-160	120-200	160-300*

*Orders must contain at least two adjacent bins.

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Consumers Series (Continued)

HFE Bins											
	R	Q	P	K	G	H	I	J	X	Y	
SA733	90-180	135-270	200-400	300-600							
SC945	90-180	135-270	200-400	300-600							
NA11					68-110*	100-160	140-240	200-350*	30-110	100-350	
NA12					68-110*	100-160	140-240	200-350*	30-110	100-350	
NA31					68-110	100-160	140-240*		30-110	100-350	
NA32					68-110	100-160	140-240*		30-110	100-350	
NA111						100-160	140-240	200-350		100-350	
NA121						100-160	140-240	200-350		100-350	

*Orders must contain at least two adjacent bins.

HFE Bins

	E	F	G	H	R	S	T
NR421	30-50*	45-75	68-110	100-160*	20-50*	45-110	100-240*
NR431	30-50	45-75	68-110	100-160*	20-50*	45-110	100-240*

*Orders must contain at least two adjacent bins.