

[Leaded type]

●TO-92 / NPN type

General purpose small signal amplifiers



TO-92 package

Product name	Pin arrangement	BV _{CBO} Min. (V)	BV _{CEO} Min. (V)	BV _{EBO} Min. (V)	I _{CBO} Max. (nA)	@V _{CB} (V)	h _{FE}		V _{CE} (sat) V _{BE} (sat)			Cob Max. (pF)	fr Min. (MHz)	@I _C (mA)	NF (dB)	I _C Max. (mA)	DIE NO.	
							Min.	Max.	@I _C @V _{CE} (mA) (V)	Max.	Max.							@I _C (mA)
2N2925	ECB	25	25	5	100	25	235	470	2	10			10	160 (Typ.)		200	C22	
2N5232A	ECB	70	50	5	100	50	250	500	2	5	0.125	10	4		5	100	C22	
MPS8097	EBC	60	40	6	30 10 μ	40 60	250	700	0.1	5	0.65 (V _{BE(ON)})	100	4	200	10	2	100	C22
MPSA20	EBC	40	40	4	100	30	40	400	5	10	0.25	10	4	125	5	100	C22	
MPS8098	ECB	60	60	6	100	60	100	300	1	5	0.4	0.3	100	6	150	10	200	C22
PN918	ECB	30	15	3	100	15	20		3	1	0.4	1	1	3	600	4	50	C33
RJE9014C	ECB	—	40	—	—	—	60	1000	—	—	—	—	—	—	—	150	C22	
RJE9018G	ECB	—	19	—	—	—	72	146	—	—	—	—	—	—	—	50	C33	

General purpose amplification and switching

Product name	Pin arrangement	BV _{CBO} Min. (V)	BV _{CEO} Min. (V)	BV _{EBO} Min. (V)	I _{CBO} Max. (nA)	@V _{CB} (V)	h _{FE}		@I _C @V _{CE} (mA) (V)	V _{CE} (sat) V _{BE} (sat)		Cob Max. (pF)	f _r Min. (MHz)	@I _C (mA)	t _{off} Max. (ns)	I _C Max. (mA)	DIE NO.
							Min.	Max.		Max.	Max.						
PN2222A	EBC	75	40	6	100	60	35		0.1	10							
							50		1.0	10							
							75	300	10	10	0.3	1.2					
							100		150	10	1	2					
							50		150	1							
2N3904	EBC	60	40	6	50 (I _{CEX})	30	30		0.1	1							
							40	300	1	1							
							150		10	1	0.2	0.85					
							60		50	1	0.3	0.95					
							30		100	1							
2N4401	EBC	60	40	6	50	30	20		0.1	1							
							40		1	1							
							80	300	10	1	0.4	0.95					
							100		150	1	0.75	1.2					
							40		500	2							
MPS6515	EBC	40	25	4	50	30	250	500	2	10	0.5						
MPS6531	EBC	60	40	5	50	40	60		10	1							
							90	270	100	1	0.3	1.0					
							50		500	10							

Medium power amplification

Product name	Pin arrangement	BV _{CBO} Min. (V)	BV _{CEO} Min. (V)	BV _{EBO} Min. (V)	I _{CBO} Max. (nA)	@V _{CB} (V)	h _{FE}		@I _C @V _{CE} (mA) (V)	V _{CE} (sat) V _{BE} (sat)		Cob Max. (pF)	f _r Min. (MHz)	@I _C (mA)	t _{off} Max. (ns)	I _C Max. (mA)	DIE NO.
							Min.	Max.		Max.	Max.						
MPSA06	EBC	80	80	4	100	80	100		10	1	0.25						
2N5551	EBC	180	160	6	50		100	270	10	5	0.2	1					

Darlington pair type

Product name	Pin arrangement	BV _{CBO} Min. (V)	BV _{CEO} Min. (V)	BV _{EBO} Min. (V)	I _{CBO} Max. (nA)	@V _{CB} (V)	h _{FE}		@I _C @V _{CE} (mA) (V)	V _{CE} (sat) V _{BE} (sat)		Cob Max. (pF)	f _r Min. (MHz)	@I _C (mA)	NF Max. (dB)	I _C Max. (mA)	DIE NO.
							Min.	Max.		Max.	Max.						
2N6426	EBC	40	40	12	50	30	20k	200k	10	5	1.2						
							30k	300k	100	5	1.5	2					
							20k	200k	500	5							
MPSA13	EBC	(V _{CEs}) 30		10	100	30	5k		10	5	1.5						
MPSA28	EBC	(V _{CEs}) 80		12	100	60	10k		10	5	1.5						
							10k		100	5							
MPSA29	EBC	(V _{CEs}) 100		12	100	80	10k		10	5	1.2						
							10k		100	5							

Note: TO-92 will be shipped to any country other than Japan.

● TO-92 / PNP type



General purpose small signal amplifier

TO-92 package

Product name	Pin arrangement	BV _{CBO} Min. (V)	BV _{CEO} Min. (V)	BV _{EBO} Min. (V)	I _{CBO} Max. (nA)	@V _{CB} (V)	h _{FE}		V _{CE} (sat) V _{BE} (sat)		Cob Max. (pF)	f _T Min. (MHz)	NF		I _C Max. (mA)	DIE NO.
							Min.	Max.	Max. (V)	Max. (V)			@I _C (mA)	@I _C (mA)		
2N5087	EBC	50	50	3	100	40	250	800	0.1	5	6	40	0.5		200	A32
							250		1.0	5						
							250		10	5						
MPSA70	EBC	40	40	4	100	30	40	400	5	10	6	125	5		100	A32
RJE9015C	ECB	—	50	—	—	—	100	600	—	—	—	—	—	—	150	A32

* The minus sign (—) on PNP values has been omitted.

General purpose amplification and switching

Product name	Pin arrangement	BV _{CBO} Min. (V)	BV _{CEO} Min. (V)	BV _{EBO} Min. (V)	I _{CBO} Max. (nA)	@V _{CB} (V)	h _{FE}		V _{CE} (sat) V _{BE} (sat)		Cob Max. (pF)	f _T Min. (MHz)	t _{off}		I _C Max. (mA)	DIE NO.
							Min.	Max.	Max. (V)	Max. (V)			@I _C (mA)	@I _C (mA)		
PN2907A	EBC	60	60	5	100	50	75		0.1	10	8	200	50	180	600	A31
							100		1	10						
							100	300	10	10						
							100		150	10						
							50		500	10						
2N3906	EBC	40	40	5	50 (I _{CES})	30	60		0.1	1	4.5	250	10	300	200	A38
							80		1	1						
							150	300	10	1						
							60		50	1						
							30		500	1						
2N4403	EBC	40	40	5	100	35	30		0.1	1	8.5	200	20	255	600	A31
							60		1	1						
							100		10	1						
							100	300	150	2						
							20		500	2						
MPS6534	EBC	40	40	4	100	30	60		10	1	8	260 Typ.			600	A31
							90	270	100	1						
							50		500	10						

* The minus sign (—) on PNP values has been omitted.

Medium power amplification

Product name	Pin arrangement	BV _{CBO} Min. (V)	BV _{CEO} Min. (V)	BV _{EBO} Min. (V)	I _{CBO} Max. (nA)	@V _{CB} (V)	h _{FE}		V _{CE} (sat) V _{BE} (sat)		Cob Max. (pF)	f _T Min. (MHz)	t _{off}		I _C Max. (mA)	DIE NO.
							Min.	Max.	Max. (V)	Max. (V)			@I _C (mA)	@I _C (mA)		
MPSA56	EBC	80	80	4	100	80	50		10	1		50	100		500	B13
							50		100	1						
2N5401	EBC	160	150	5	50		56	270	10	5	6	50			600	A329

* The minus sign (—) on PNP values has been omitted.

Darlington pair type

Product name	Pin arrangement	BV _{CBO} Min. (V)	BV _{CEO} Min. (V)	BV _{EBO} Min. (V)	I _{CBO} Max. (nA)	@V _{CB} (V)	h _{FE}		V _{CE} (sat) V _{BE} (sat)		Cob Max. (pF)	f _T Min. (MHz)	NF		I _C Max. (mA)	DIE NO.
							Min.	Max.	Max. (V)	Max. (V)			@I _C (mA)	@I _C (mA)		
MPSA63	EBC	30	30 (V _{CES})	10	100	30	5k		10	5	7	125	10		500	B25
							10k		100	5						
MPSA64	EBC	30	30 (V _{CES})	10	100	30	10k		10	5	7	125	10		500	B25
							20k		100	5						

* The minus sign (—) on PNP values has been omitted.