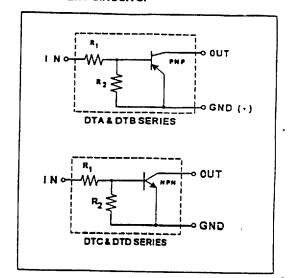
### APPLICATION:

Inverter, Driver & Interface Circuits

### FEATURES:

- Replaces up to three parts (1 transistor & 2 resistors) with one part
- Available in a variety of surface mount or leaded (thru-hole) packages
- · High packing density requires less board space
- Cost savings due to fewer components to purchase & stock & handle
- Improved reliability due to reduced number of components
- Available in PNP & NPN polarities
- Available in 100 mA & 500 mA devices
- Decreased parasitic effects
- Double diffused silicon, Epitaxial Planar Transistor with thin film internal bias resistors

### **EQUIVALENT CIRCUITS:**



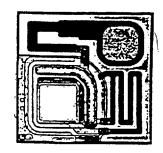
### **MAXIMUM RATINGS:**

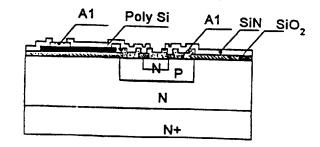
PARAMETER	PN	P	N	PN	
· ////////C/EK	DTA	DTB	DTC	DTD	UNITS
Power Supply Voltage (V <sub>cc</sub> )	50	50	50	50	Volts
Collector Current (I <sub>c</sub> )	100	500	100	500	mA
Junction Temperature (Tj)	÷125	+125	+125	+125	*C
Storage Temperature (Tstg)	-55 to +125	-55 to +125	-55 to +125	-55 to +125	• • • • • • • • • • • • • • • • • • • •
Power Dissipation (Pd)	Rated by	Package See		1-00 to +125	mW

# MAXIMUM POWER DISSIPATION BY PACKAGE: Pd (mW)

	SURI	ACE MO	JNT DEVI	CES	THRU	-HOLE (L	EADED) DI	EVICES	···
Test Condition	SST (SOT-23)	SMT (SC-59)	UMT	ЕМЗ	SPT	ATR	ATV	FTR	FTL
Free Air/PCB	<u> </u>	· /			(TO-92S)				
	200	200	200	150	300	300	300	300	300
Ceramic Substrate	350	350	350	250	_			_	_

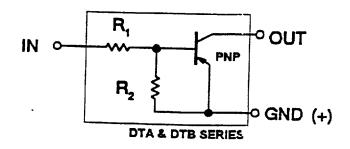
### DIGITAL TRANSISTOR CONSTRUCTION:

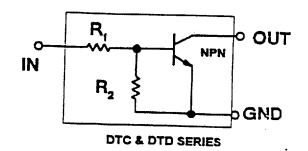




ROHM CORPORATION, Rohm Electronics Division, 3034 Owen Dr., Antioch, TN 37013 (615)641-2020 FAX (615)641-2022

# Digital Transistor Summary Table





	Resistor Values	PNP	PNP	NPN	NPN
R,	R,	2N3906	PN2907A/2N4403	I <sub>c</sub> (Mex) = 100 mA 2N3904	I <sub>c</sub> (Max) = 500 m/ PN2222A/2N4401
1/K 1/K	1K NONE	<b>D</b>	DTB 113E	_	DTD 113E
1/K	10K	DTA 113T DTA 113Z	DTB 113Z	DTC 113Z	DTD 113Z
10K	10K	DTA 114E	DTB 114E	DTC 114E	
0	10K	DTA 114G		DTC 1146	DTD 114E
10K	NONE	DTA 114T	DTB 114T	DTC 114T/DTC 314T •	DTD 114G
10K	4.7K	DTA 114W		DTC 114W	DTD 114T
10K	47K	DTA 114Y/DTA 214Y	-	DTC 114Y	<u> </u>
100K 0	100K	DTA 115E	-	DTC 115E	<u> </u>
100K	100K	DTA 115G	-	DTC 115G	
100K	NONE	DTA 115T	•	DTC 115T	-
	10K	DTA 115U	-	DTC 115U	
.22K	4.7K	_	DTB 122J	-	DTD 122.I
2.2K 2.2K	2.2K	DTA 123E	DTB 123E	DTC 123E	
	NONE	-	DTB 123T	DTC 323T *	DTD 123E
2.2K	47K	DTA 123J		DTC 123J	DTD 123T
2.2K	10K	DTA 123Y	DTB 123Y	DTC 123Y	DTD 123Y
2.7K	1K	DTA 1D3R	•	DTC 1D3R	
22K	22K	DTA 124E			•
0	22K	DTA 124G		DTC 124E	•
22K	NONE	DTA 124T		DTC 124G	•
22K	47K	DTA 124X		DTC 124T DTC 124X	-
220K	NONE	DTA 125T		DTC 125T	•
3.3K	10K	•	DTB 133H	D1C 1251	-
4.7K	4.7K	DTA 143E		•	DTD 133H
4.7K	NONE	DTA 143E	DTB 143E	DTC 143E	DTD 143E
4.7K	10K	DTA 143X	DTB 143T	DTC 143T/DTC 343T •	DTD 143T
4.7K	22K	DTA 143X	-	DTC 143X	
4.7K	47K	DTA 1437	-	DTC 143Y	•
47K	47K		•	DTC 143Z	-
0	47K	DTA 144E	-	DTC 144E	
47K	NONE	DTA 144G	- 1	DTC 144G	-
47K	10K	DTA 144T	-	DTC 144T	•
17K	22K	DTA 144V DTA 144W	-	DTC 144V	•
.8K		D17 (444)		DTC 144W	•
.8K	6.8K NONE	•	-	DTC 363E *	
	TORE	- !	DTB 163T	DTC 363T •	•

<sup>\*</sup> I<sub>c</sub> = 600 mA

NOTE: See "How to Order" for complete part number

ROHM CORPORATION, Rohm Electronics Division, 3034 Owen Dr., Antioch, TN 37013 (615)641-2020 EAX (615)641 2020

### DIGITAL TRANSISTOR: PNP

ELECTRICAL CHARACTERISTICS: 100 mA Series

	Vin(o	T)		VIn(o	n)		Vo	(on)			lb		lc(OF	F)		Vce(8	SAT)		Cob	@ F=1	MHz		CUT-O	FF FR	EQ
PART	Max	Voe	k	Min	Voe	k	TYP	Max	lc	No.	Max	Vin	Mex	Voc	Vin	Max	lo	В	TYP	Mex	Vcb	Je ,	п	Voe	ic
NUMBER	M	(4)	(mA)	(2)	(9)	(mA)	(2)	8	(mA)	(mA)	(mA)	(2)	(44)	(%)	M	(0)	(mA)	(mA)	(pF)	(pF)	8	(mA)	(MHz)	8	(mA)
DTA113Z	0.3	5	0.1	3	0.3	20	0.1	0.3	10	0.5	7.2	5	10	30	Û	0.3	5	0.25	3	6	10	0	250	10	5
DTA114E	0.5	5	0.1	3	0.3	10	0.1	0.3	10	0.5	0.88	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTA114W	0.8	5	0.1	3	0.3	2	0.1	0.3	10	0.5	0.88	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTA114Y	0.3	5	0.1	1.4	0.3	1	0.1	0.3	5	0.25	0.88	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTA115E	0.5	5	0.1	3	0.3	1	0.1	0.3	5	0.25	0.15	5	10	30	0	0.3	_ 5	0.25	3	6	10	0	250	10	5
DTA115U	3.3	5	0.1	1.5	0.3	1	0.1	0.3	7	0.2	0.1	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTA123E	0.5	5	0.1	3	0.3	20	0.1	0.3	10	0.5	3.8	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTA123J	0.5	5	0.1	1.1	0.3	5	0.1	0.3	5	0.25	3.6	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTA123Y	0.3	5	0.1	3	0.3	20	0,1	0.3	10	0.5	3.8	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTA124E	0.5	5	0.1	3	0.2	5	0.1	0.3	10	0.5	0.36	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTA124X	G.4	5	0.1	2.5	0.3	2	0.1	0.3	10	0.5	0.36	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTA143E	G. <b>5</b>	5	0.1	3	0.3	20	0.1	0.3	10	0.5	1.8	· 5	10	· 30	• 0	0.3	5	0.25	3	6	· 10	0	250	10	5
DTA143X	0.3	5	0.1	2.5	0.3	20	0.1	0.3	10	0.5	1.8	5	10	30	0	0.3	5	0.25	3	6	_10	0	250	10	5
DTA143Y	ი.3	5	0.1	3	0.3	10	0.1	0.3	10	0.5	1.8	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTA143Z	(5	5	0.1	1.3	0.3	5	0.1	0.3	5	0.25	1.8	5	10	30	0	0.3	5	0.25	3	6	10	0	250	_10	5
DTA144E	€.5	5	0.1	3	0.3	2	0.1	0.3	10	0.5	0.18	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTA144V	٥.′	5	0.1	6	0.3	2	0.1	0.3	10	0.5	0.16	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTA144W	C.B	5	0.1	4	0.3	2	0.1	0.3	10	0.5	0.16	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTA214Y	C.3	5	0.1	1.4	0.3	1	0.1	0.3	50	2.5	0.88	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTA1D3R	1.5	5	0.1	4	0.3	5	0.1	0.3	10	1	3.7	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5

	Vin(of	1)		Vin(o	n)		Vo	(on)			Ь		lc(OF	F)		Vce(S	AT)		Cob (	@ F=1	MHz		CUT-0	FF FR	EQ
PART	Max	Væ.	k	Min	Voe	k	TYP	Max	lc	Ιb	Max	Vin	Max	Voc	Vin	Max	lc	В	TYP	Max	Vcb	le	n l	Vce	lc
NUMBER	(0)	8	(mA)	8	(0)	(uA)	(4)	(2)	(mA)	(mA)	(mA)	8	(uA)	0	(7)	(8)	(mA)	(mA)	(pF)	(pF)	8	(mA)	(MHz)	(V)	(mA)
DTA143T	0.3	5	0.1	3	0.3	20	0.1	0.3	10	0.5	7.2	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTA114T	0.5	5	0.1	3	0.3	10	0.1	0.3	10	0.5	0.88	5	10	30	0	0.3	10	1	3	6	10	0	250	10	5
DTA124T	0.8	5	0.1	3	0.3	2	0.1	0.3	5	0.25	1.8	5	10	30	0	0.3	5	0.5	3	6	10	-	250	10	5
DTA144T	0.3	5	0.1	1.4	0.3	1	0.1	0.3	5	0.25	0.88	5	10	30	0	0.3	5	0.5	3	- 6	10	-	250	10	5
DTA115T	0.5	5	0.1	3	0.3	1	0.1	0.3	5	0.25	0.15	5	10	30	0	0.3	1	0.1	3	6	10	-	250	10	- 5
DTA125T	0.8	5	0,1	3	0.3	1	0.1	0.3	5	0.25	0.33	5	10	30	0	0.3	0.5	0.05	3	-	10	0	250	10	
DTA113T	0.5	5	0.1	3	0.3	20	0.1	0.3	10	0.5	3.8	5	10	30	-		5	0.2	3	6	10	-	250	10	- 5

	Vin(of	T)		Vin(o	n)		Vo	(on)			IЬ		lc(OF	F)		Vce(S	AT)		Cob (	@ F=1	MHz		CUT-O	FF FR	EQ
PART	Max	Vce	kc	Min	Vœ	S	TYP	Macx	k	Ð.	Max	Vin	Meax	Voc	Vin	Max	lc	lb.	TYP	Max	Vcb	le	ıπ	Vce	lc lc
NUMBER	3	(∨)	(mA)	(8)	(2)	(uA)	(S)	8	(mA)	(mA)	(mA)	8	(uA)	8	(%)	i M	(mA)	(mA)	(pF)	(pF)	S	(mA)	(MHz)		(mA)
DTA114G	0.3	5	0.1	3	0.3	20	0.1	0.3	10	0.5	7.2	5	10	30	٥	0.3	10	0.5	3	6	10	0	250	10	5
DTA124G	0.5	· 5	0.1	3	0.3	10	0.1	0.3	10	0.5	0.88	5	10	30	0	0.3	10	0.5	3	6	10	-	250	10	-
DTA144G	0.8	5	0.1	3	0.3	2	0.1	0.3	5	0.25	1.8	5	10	30	0	0.3	10	0.5	3	6	10	0	250	10	
DTA115G	0.3	5	0.1	1.4	0,3	1	0.1	0.3	5	0.25	0.88	5	10	30	0	0.3		0.25	3	-	10	-			<u></u>
DTB114G	0.3	5	0.1	3	0.3	20	0.1	0.3	10	0.5	7.2	5	10	30	0		50	2.5		-		-	250	10	-31
								0.0		0.0	7.4			- 30		1 0.3	30	2.5	. 3	5	10	0	200	10	5

# ELECTRICAL CHARACTERISTICS: 500 mA Series

	Vin(o	1)		Vin(or	1)		You	(on)			lb		Ic(OF	F)		Voe(S	MT)		Cob	@ F=1	MHz		CUT-O	FF FR	FO
PART	Max	Vœ	kc	Min	Voe	ñ	TYP	Max	S	Ь	Max	Vin	Max	Voc	Vin	Max	k	ь	TYP	Max	Vcb	_	TT	Voe	k
NUMBER	8	(V)	(mA)	3	(%)	(uA)	(4)	(V)	(mA)	(mA)	(mA)	(V)	(44)	(%)	(8)	M	(mA)	(mA)		(pF)	3	(mA)	(MHz)		(mA)
DTB113E	0.5	5	0.1	3	0.3	20	0.1	0.3	50	25	7.2	- 5	10	30	Ô	0.3	3	0.25	3	6	10	(1112)	200	10	50
DTB113Z	0.3	5	0.1	3	0.3	20	0.1	0.3	50	2.5	7.2	5	10	30	0	0.3	5	0.25	3	6	10	-	200	10	50
DTB114E	0.5	5	0.1	3	0.3	10	0.1	0.3	50	2.5	0.88	5	10	30	0	0.3		0.25	-3	- 5	10	- 0	200		
OTB123E	0.5	5	0,1	3	0.3	20	0.1	0.3	50	2.5	3.8	- 5	10	30	0	0.3		0.25	3	-	10			10	50
DTB143E	0.5	5	0.1	3	0.3	20	0.1	0.3	50	2.5	1.8	5	10	30	-	0.3	- 5	0.25	- 3	-		- 0	200	10	50
DTB123Y	0.3	5	0.1	2	0.3	20	0.1	0.3	50	2.5	3.6		10	30		0.3	-	0.25	3		10	- 0	200	10	50
DTB122J	0.3	5	0.1	2	0.3	30	0.1	0.3	50	2.5	4.5	5	10	30	<del> </del>	0.3		0.25	3	6	10	0	200	10	50
DTB133H	0.3	5	0.1	2	0.3	20	0.1	0.3	50	2.5	24		10	30	-	-		-	3	6	10	0	200	10	50
									_~_				1 10	30		0.3		0.25	3	6	10	. 0	200 l	10	50

	Vin(o	7)		Vin(o	n)	<del></del>	Vo	(on)			lb		lc(OF	F)		Voe(8	AT		Cob	a E	8414-		0.55	<u></u>	
PART	Max	Vce	k	Min	Voe	lc	TYP	Max	kc	lb	Max	Vin	Max		Vin	Max	lc	Ш	TYP	Marox	Vcb		CUT-0		_
NUMBER	(2)	(%)	(mA)	(9)	(V)	(uA)	(0)	(%)	(mA)	(mA)	(mA)	8	(uA)	8	8	~		(mA)		(oF)	ΛΛ.	le (	11	Vos	1
DTB123T	0.3	5	0.1	3	0.3	20	0.1	0.3	10	0.5	7.2	5	10	30	0	0.3		0.25	3	(51)	7.7	(mA)		1	(mA)
DTB143T	0.5	5	0.1	3	0.3	10	0.1	0.3	10	0.5	0.88	5	10	30	0	0.3	_	0.25			10	- 0	200	10	3
DTB163T	8.0	5	Q.1	3	0.3	2	0.1	0.3	5	0.25	1.8	5	10	30	-	0.3		0.25	- 3		10	0	200	10	3
DTB114T	Ö.5	5	0.1	1.4	0.3	1	0.1	0.3		O'S PERSON				- EA		-				9	10	0	200	10	5
	لتنب				0.0	L	0.1	V.2	9	V.23	U.00		10	30	0	0.3	5	0.25	1 3	6	10	0	200	10	-

TRANSISTORS

### DIGITAL TRANSISTOR: PNP

ELECTRICAL CHARACTERISTICS: 100 mA Series

		RESISTO	RVALUE		R2/R	1	kc	INPU	TVOLT	hFE			lcbo		loso			1	
PART	TYP	R1	R2	Min	Тур	Mex	Mex	Min	Mex	Min	Voe	lc	Mex	Vab	Max	Voe	PART	DIE	EQUIVALENT
NUMBER		(K)	(K)				(mA)	8	8		<u> </u>	(mA)	(uA)	(9)	(uA)	(0)	MARK	TYPE	CIRCUIT
OTA113Z	PNP	1.0	10.0	8	10	12	100	-10	5	33	5	5	0.5	50	0.5	50	E11/111	A776	
DTA114E	PNP	10.0	10.0	0.8	1	1.2	100	4	10	30	5	5	0.5	50	0.5	50	14	A766	1
DTA114W	PNP	10.0	4.7	0.37	0.47	0.57	100	-30	10	24	5	10	0.5	50	0.5	50	74	A778	
DTA114Y	PNP	10.0	47.0	3.7	4.7	5.7	100	49	8	68	5	5	0.5	50	0.5	50	54	A762	
DTA115E *	PNP	100.0	100.0	0.8	1	1.2	100	49	10	82	5	5	0.5	50	0.5	50	19	B861	
DTA115U	PNP	100.0	10.0	0.08	0.1	0.12	100	\$	10	27	5	5	0.5	50	0.5	50	E79/179	8865	
DTA123E	PNP	2.2	2.2	0.8	1	1.2	100	-12	10	20	5	20	0.5	50	0.5	50	12	A733	
DTA123J	PNP	2.2	47.0	17	21	26	100	-12	5	80	5	10	0.5	50	0.5	50	E32/132	A774	
OTA123Y	PNP	2.2	10.0	3.5	4.5	5.5	100	-12	5	33	5	10	0.5	50	0.5	59	52	A777	In
DTA124E	PNP	22.0	22.0	0.8	1	1.2	100	-40	10	56	5	5	0.5	50	0.5	8	15	A761	(Same)
DTA124X	PNP	22.0	- 47.0	1.7	21	2.6	100	49	10	68	5	5	0.5	50	0.5	5υ	35	A770	<b>~</b> * }
DTA143E	PNP	4.7	4.7	0.8	1	1.2	100	-30	10	20	- 5	10	0,5	50	0.5	50	13	A768	GO:(4
OTA143X	PNP	4.7	10.0	1.7	2.1	26	100	-20	7	30	5	10	0.5	50	0.5	50	33	A769	
DTA143Y	PNP	4.7	22.0	3.7	4.7	5.7	100	-30	6	56	5	5	0.5	50	0.5	5%	53	A785	
DTA143Z	PNP	4.7	47.0	8	10	12	100	-30	- 5	80	5	10	0.5	50	0.5	50	E13/113		
TA144E	PNP	÷7.0	47.0	0.8	1	1.2	100	4	15	68	5	5	0.5	50	0.5	5:		A782	
TA144V	PNP	~7.0	10.0	0.17	0.21	0.26	100			33	5	5	0.5	50	0.5	52		A774	
TA144W	PNP	47.0	22.0	0.37	0.47	0.57	100	40	10	56	5	5	0.5	50	0.5	5C		A767	
TA214Y	PNP	10	47	3.7	4.7	5.7	100	-40	6	68	5	5	0.5	50	0.5	50		A762	
TA1D3R	PNP	2.7	1.0	0.33	0.37	0.41	100	-15	15	20	5	30	0.5	50	0.5	50 l		A784	

		RES:STC	R VALUE	Vabo	Voec	Vebo	kc		hFE				kcbo		lebo	7		T	
PART	TYP	R1	R2	Max	Max	Max	Max	Min	Тур	Max	Vœ	kc	Max	Vcb	Max	Veb	PART	DIE	EQUIVALENT
NUMBER		(K.)	(K)	8	_(^)	8	(mA)			<u> </u>	8	(mA)	(uA)	(0)	(ua)	M	MARK	TYPE	
DTA143T	PNP	4.7	NONE	50	50	5	100	100	250	600	3	1	0.5	50	0.5	-	93	A764	
DTA114T	PNP	19.0	NONE	50	50	5	100	100	250	600	5	1	0.5	50	0.5	<b>—</b>		A765	
DTA124T	PNP	22.0	NONE	50	50	5	100	100	250	600		-	0.5	50					
DTA144T	PNP	47.0						-		+		-	_	_	0.5	41	95	A771	P1
			NONE	50	_50	5	100	100	250	600	5	. 1	0.5	50	0.5	4	96	A772	
DTA115T	PNP	100.0	NONE	50	50	5	100	100	250	600	5	1	0.5	50	0.5	4		B864	
DTA125T	PNP	200.0	NONE	50	50	5	100	100	250	600	- 5	1	0.5	50					
DTA113T	PNP	10					_						_		0.5	-1	24	B863	
D.A.131	FRIT	1.0	NONE	50	50	5	100	100	250	600	5	1	0.5	50	0.5	4	91	A786	

		RESISTO	R VALUE	Vabo	Voso	Vebo	ic		hFE				lcbo		lebo	1			
PART	TYP	Rí	R2	Max	Max	Max	Max	Min	Тур	Max	Vœ	kc	Max	Vcb		Vab	PART	DIE	EQUIVALENT
NUMBER		(K)	(K)	(8)	8	(0)	(mA)			1	8	(mA)	(uA)	S	(uA)		MARK	TYPE	CIRCUIT
DTA114G	PNP	0	10.0	50	50	5	100	30	-		5	5	0.5	50	580	4		A780	CIACOIT
DTA124G	PNP	0	22.0	50	50	5	100	56	•	-	5	5	0.5	50	260	1		A781	
DTA144G	PNP	0	47.0	50	50	5	100	68			5	5	0.5	_	130	1			
DTA115G	PNP	0	100.0	50	50	5	100	82	-		5	5	0.5	50	58			A782	R2
DTB114G	PNP	0	10.0	50	50	5	500	58	-	-	5	100	0.5	_				B862	
							~~			نتسل		100	0.5	3	0.5	4 1	L14	B726	

# ELECTRICAL CHARACTERISTICS: 500 mA Series

		RESISTO	RVALUE		R2/R	1	lc	INPU	T VOLT	hFE	:	-	lcbo		loso				
PART NUMBER	TYP	R1 (K)	R2 (K)	Min	Тур	Macx	Max (mA)	Min (V)	Max (V)	Min	Vœ (S)	ks (mA)	Macc		Max	Vœ (Y)	PART MARK	DIE	EQUIVALENT CIRCUIT
DTB113E	PNP	1.0	1.0	0.8	1	1.2	500	-10	10	33	5	50	0.5	50	0.5	50		B717	CIRCUII
DTB1132	PNP	1.0	10.0	8	10	12	500	-10	5	56	5	50							
OTB114E	PNP	10.0	10.0	~~									0.5	50	0.5	50	G11	B718	
			10.0	0.8	1	1.2	500	-40	10	56	5	50	0.5	50	0.5	50	F14	B714	. At
DTB123E	PNP	2.2	2.2	0.8	1	1.2	500	-12	10	39	5	50	0.5	50	0.5				(Game)
DTB143E	PNP	4.7	4.7	0.8		1.2	500									50	F12	8712	No.
OTD400V	5415					1.2	300	-30	10	47	)	50	0.5	50	0.5	50	F13	B713	
DTB123Y	PNP	2.2	10.0	3.6	4.5	5.5	500	-12	5	56	5	50	0.5	50	0.5	50			
DTB122J	PNP	0.22	4.7	17.1	21.3	25.0	500			-					0.5	30	F32	B715	(faring
0704004				17.1	21.3	20.0	500	-5	3	47	ן כן	50	0.5	50	0.5	50	G3C	B725	
DTB133H	PNP	3.3	10.0	2.4	3	3.7	500	-20	В	56	5	50	0.5	50	0.5	50			
							·							~	7.3	~	G98	B719	

1 1	- 1	RESISTO	RVALUE	Vcbo	Voec	Vebo	\ lc		hFE				Icbo		lebo	_		·	
PART	TYP	R1	R2	Max		Max	Max	Min	Typ	Max	Voe	lc	Max	Vcb		<del></del>			_
NUMBER		(K)	(K)	8	~	~	(mA)		.,,,,		8	(mA)					PART	DIE	EQUIVALENT
DTB123T	PNP	2.2	NONE	50	50	r <del>ኝ</del>	500	100	250	600	17/	50		1.7	(uA)	3	MARK	TYPE	CIRCUIT
DTB143T	PNP	4.7	NONE	50	50	- 5	500	100		600			0.5	50	0.5	1		B723	
DTB163T	PNP	6.8	NONE	50						+		50	0.5		0.5	4	F03	B720	- N
DTB114T	PNP	10.0			50	- 5	500	100		600	5	50	0,5	50	0,5	4	E97	B721	
0.0.141	FAF	10.0	NONE	50	50	5	500	100	250	600	5	50	Ŏ.5	50	0.5	4	E94	8722	

4

TRANSISTORS

Malelle

DIGITAL TRANSISTOR: NPN

ELECTRICAL CHARACTERISTICS: 100 mA Series

	Vin(of	1)		Vin(o	1)		Vo	(on)			b		lc(OF	Ŧ)		V00(8	AT)		Cob (	2 F=1	MHz		CUT-O	FF FR	EQ
PART	Max	Vœ	lc	Min	Voe	ko	TYP	Mex	lc	1b	Mex	Vin	Mex	Voo	Vin	Mex	lo	10	TYP	Max	Vcb	le	п	Vœ	lc
NUMBER	8	8	(mA)	(5)	(4)	(mA)	(%)	8	(mA)	(mA)	(mA)	(%)	(UA)	8	8	(4)	(mA)	(mA)	(pF)	(pF)	8	(mA)	(MHz)	8	(mA
DTC113Z	0.3	5	0.1	3	0.3	20	0.1	0.3	10	0.5	7.2	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTC114E	0.5	5	0.1	3	0.3	10	0.1	0.3	10	0.5	0.88	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTC114W	0.8	5	0.1	3	0.3	2	0.1	0.3	10	0.5	0.88	_5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTC114Y	0.3	5	0.1	1.4	0.3	1	0.1	0.3	5	0.25	0.88	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTC115E	0.5	5	0.1	3	0.3	1	0.1	0.3	5	0.25	0.15	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTC115U	3.3	5	0.1	1.5	0.3	1	0.1	0.3	7	0.2	0,1	5	10	30	0	0.3	5	0.25	3	6	10	٥	250	10	5
DTC123E	0.5	5	0.1	3	0.3	20	0.1	0.3	10	0.5	3.8	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTC123J	0.5	5	0.1	1.1	0.3	5	0.1	ខ	5	0.25	3.6	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTC123Y	0.3	5	0.1	3	0.3	20	0.1	0.3	10	0.5	3.8	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTC124E	0.5	5	0.1	3	0.2	5	0,1	0.3	10	0.5	0.36	5	10	30	0	0.3	5	0.25	3	- 6	10	0	250	10	5
DTC124X	0.4	5	0.1	2.5	0.3	2	0.1	0.3	10	0.5	0.36	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTC143E	0.5	5	0.1	3	0.3	20	·0.1	0.3	10	0.5	1.8	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTC143X	0.3	5	0.1	2.5	0.3	20	0.1	0,3	10	0.5	1.8	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTC143Y	0.3	5	0.1	3	0.3	10	0.1	0.3	10	0.5	1.8	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	- 5
DTC143Z	0.5	5	0,1	1.3	0.3	5	0.1	0.3	5	0.25	1.5	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTC144E	0.5	5	0.1	3	0.3	2	0.1	0.3	10	0.5	0.18	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTC144V	1.0	5	0.1	6	0.3	2	0,1	0.3	10	0.5	0.16	5	10	30	0	0.3	5	0.25	3	6	10	0	250	10	5
DTC144W	0.8	5	0.1	4	0.3	2	0.1	0.3	10	0.5	0.16	5	10	30	0	0.3	-	0.25	3	6	10	0	250	10	5
DTC214Y	0.3	5	0.1	1.4	0.3	1	0.1	0.3	50	2.5	0.88	5	10	30	0	0.3	_	0.25	3	6	10	0	250	10	5
DTC1D3R	1.5	5	0.1	4	0.3	5	0.1	0.3	10	1	3.7	5	10	30	- 0	0.3		0.25	3	6	10	0	250	10	<del>- 5</del>

	Vin(o	1)		Vin(o	n)		Vo	(on)			lb		lc(OF	F)		Voe(S	AT)		Cob	@ F = 1	MHz		CUT-O	FF FR	ΕQ
PART	Max	Vœ	kc	Min	Vœ	lc	TYP	Max	kc	#b	Max	Vin	Mex	Voc	Vin	Max	la	Ь	TYP	Max	Vcb	le	TT	Voe	·
NUMBER	8	8	(mA)	8	M	(uA)	(4)	8	(mA)	(mA)	(mA)	(3)	(uA)	0	<u>(v)</u>	(0)	(mA)	(mA)	(pF)	(pF)	(2)	(mA)	(MHz)		(mA)
DTC143T	0.3	3	0.1	3	0.3	20	0.1	0.3	10	0.5	72	3	10	30	0	0.3	3	0.25	3	6	10	0	250	10	5
DTC114T	0.5	5	0.1	3	0.3	10	0.1	0.3	10	0.5	0.88	5	10	30	0	0.3	10	1	3	6	10		250	10	
DTC124T	0.8	5	0.1	3	0.3	2	0.1	0.3	5	0.25	1.8	5	10	30	0	0.3	5	0.5	3	R	10		250	10	
DTC144T	0.3	5	0.1	1.4	0.3	1	0.1	0.3	5	0.25	0.88	5	10	30	0	0.3	5	0.5	3	-	10	-	250	10	
DTC115T	0.5	5	0.1	3	0.3	1	0.1	0.3	5	0.25	0.15	5	10	30	0	0.3	÷	0.1	- 3	-					
DTC125T	0.8	5	0,1	3	0.3	1	0.1	0.3	5	0.25	0.33	5	10	30	0	0.3	0.5	0.05	-		10		250	10	-3
DTC113T	0.5	5	0.1	3	0.3	20	0.1	0.3	10	0.5		-		-			0.0		3	- 0	10	U	250	10	5
0.0	0.5		0.1	- 3	0.3	20	U. 1	0.3	10	U.5	3.8	_ 3	10	30	0	0.3	5	0.2	3 (	6 (	10	0	250	10	5

	Vin(of	1)		Vin(o	n)		Vo	(on)			Вb		lc(OF	F)		Voe(5	CTAS		Cob (	® F=1	ИНт		CUT-O	CE EO	<u> </u>
PART	Max	Voe	ð	Min	Vœ	k	TYP	Max	lc	lb.	Max	Vin	Mex	Voc	Vin	Max	Ь	Ь	TYP	Max	Vcb		π	Voe	
NUMBER	8	8	(mA)	(7)	(%)	(uA)	8	(%)	(mA)	(mA)	(mA)	(V)	(44)	(%)	8	(0)	(mA)	(mA)		(pF)	8	(mA)	(MHz)		(mA)
DTC114G	0.3	5	0.1	3	0.3	20	0.1	0.3	10	0.5	7.2	5	10	30	Ó	0.3	10	0.5	3	(F.)	10	(,	250		(1154)
DTC124G	0.5	5	0.1	3	0.3	10	0.1	0.3	10	0.5	0.88	5	10	30	0	0.3	10	0.5				-		10	3
DTC144G	0.8	5	0.1	3	0.3	2	0.1	0.3	5	0.25	1.8	-	10	30	-				- 3		10	U	250	10	5
DTC115G	0.3	5	0.1	1.4	0.3		0.1	0.3					_			0.3	10	0.5	3	- 6	10	. 0	250	10	5
DTD114G		-	0.1						3		0.88		10	30	0	0.3	10	0.25	3	6	10	0	250	10	5
0.01146	0.5	5	U.1	3	0.3	20	0.1	0.3	10	0.5	7.2	5	10	30	0	0.3	50	2.5	3	6	10	0	200	10	5

ELECTRICAL CHARACTERISTICS: 500 mA Series

	Vin(o	m)		Vin(o	n)		Vo	(on)			lb		lc(OF	Ð		Voe(S	AT		Cob	- F - 1	1444-				
PART	Max	Vœ	lc	Min	Vos	lc	TYP	Max	lc	Ь	Max	Vin	Max	Voc	Vin	Max	<u> </u>		Cob	ĭ	_		CUT-O		EQ.
NUMBER	8	(2)	(mA)	8	M	(uA)	8	8	(mA)				(UA)	8	8		(C	Ь	TYP	Max	Vcb	le	m	Voe	1c
DTD113E	0.5	5	0.1	3	0.3	20	0.1	0.3	50	2.5	70	(V)	10		(4)	(0)	(mA)	4.10	(pF)	(pF)	8	(mA)	(MHz)	(2)	(mA)
DTD113Z	0.3	5	0.1	3	0.3	20					7.2	-3	10	30	-	0.3	5	0.25	3	6	10	0	200	10	50
DTD114E	0.5	5	0.1	3			0.1	0.3	50	2.5	7.2	2	10	30	0	0.3	5	0.25	3	6	10	0	200	10	50
DTD123E	0.5	5	_		0.3	10	0.1	0.3	50	2.5	0.88	5	10	30	0	0.3	5	0.25	3	6	10	0	200	10	50
DTD143E			0.1	3	0.3	20	0.1	0.3	50	2.5	3.8	5	10	30	0	0.3	5	0.25	3	6	10	0	200	10	50
	0.5	3	0.1	3	0.3	20	0.1	0.3	50	2.5	1.8	5	10	30	0	0.3	5	0.25	3	6	10	-	200	10	
DTD123Y	0.3	5	0.1	2	0.3	20	0.1	0.3	50	2.5	3.6	5	10	30	0	0.3		0.25	1			- ž		-	50
DTD122J	0.3	5	0.1	2	0.3	30	0.1	0.3	50	2.5	4.5	5	10	30	0	0.3	_	0.25	- 3	-	10	0	200	10	50
DTD133H	0.3	5	0.1	2	0.3	20	0.1	0.3	50	2.5	2.4		10	30	-	_			3	-	10	0	200	10	50
														_30		0.3	- 3	0.25	3	6	10	0	200	10	50

	Vin(of	E)		Vin(or	n)		Vo	on)			Њ		lc(OF	5		14			,						
PART	Max	Vce	lc	Min	Vce	lc	TYP	Max	14	lb	Men	16-	4 `			Voe(8	<u> </u>		Cob	@ F=1	MHz		CUT-0	FF FR	REQ
NUMBER	8	M	(mA)		3	(uA)	^^	~	(mA)			Vin	Mex	Voc	Vin	Mex	ic	ь	TYP	Max	Vcb	le	rr	Vœ	k
DTD123T	0.3	5	0.1	3	0.3	20	0.1	0.3	10	200	(mA)	(v)	(uA)	(A)	8	3	(mA)	7	(pF)	(pF)	(3)	(mA)	(MHz)	8	(mA)
DTD143T	0.5	5	0.1	3	0.3	10	0.1	0.3	10	0.5	7.2		10	30	0	0.3	5	0.25	3	6	10	0	200	10	5
DTD163T	Q,8	5	0.1	3	0.3	- 3			10		0.88	3	10	30	0	23	5	0.25	3	6	10	0	200	10	5
DTD114T	0.3		-		-		0.1	0,3	3	0.25	1,8		10	_30	0	0.3		0.25	3	6	10	0	200	10	A
3131141	0.5		0.1	1.4	0.3		0.1	0.3	5	0.25	0.58	5	10	30	0	0.3	5	0.25	3	6	10	0	200	10	

TRANSISTORS

### DIGITAL TRANSISTOR: NPN

### ELECTRICAL CHARACTERISTICS: 100 mA Series

		RESISTO	R VALUE		R2/R	1	k	INPU	<b>TVOLT</b>	hFE			lcbo		loso				
PART	TYP	R1	R2	Min	Тур	Max	Max	Min	Max	Min	Voe	2	Max	Vob	Mex	Voe	PART	DIE	EQUIVALENT
NUMBER		(K)	(K)	]	<u> </u>		(mA)	(9)	(5)		8	(mA)	(uA)	8	(uA)	8	MARK	TYPE	CIRCUIT
DTC113Z	NPN	1.0	10.0	8	10	12	100	-10	5	33	5	5	0.5	50	0.5	50	E12/121	C776	
DTC114E	NPN	10.0	10.0	0.8	1	1.2	100	-40	10	30	5	5	0.5	50	0.5	50	24	C768	
DTC114W	NPN	10.0	4.7	0.37	0.47	0.57	100	-30	10	24	5	10	0.5	50	0.5	50	84	C778	
DTC114Y	NPN	10.0	47.0	3.7	4.7	5.7	100	4	6	68	5	5	0.5	50	0.5	50	64	C752	
DTC115E *	NPN	100.0	100.0	0.8	1	1.2	100	4	10	82	5	5	0.5	50	0.5	50	29	D861	
DTC115U	NPN	100.0	10.0	0.08	0.1	0.12	100	8	10	27	5	5	0.5	50	0.5	50	E89/189	D665	
DTC123E	NPN	2.2	2.2	0.8	1	1.2	100	-12	10	20	5	20	0.5	59	0.5	50	22	C733	
DTC123J	NPN	2.2	47.0	17	21	26	100	-12	5	80	5	10	0.5	50	0.5	50	E42/142	C774	
DTC123Y	NPN	2.2	10.0	3.5	4.5	5.5	100	-12	5	33	5	10	0.5	50	0.5	50	62	C777	RI COT
DTC124E	NPN	22.0	22.0	8.0	1	1.2	100	49	10	58	5	5	0.5	50	0.5	50	25	C761	(Bens)
DTC124X	NPN	22.0	47.0	1.7	2.1	2.6	100	49	10	68	5	5	0.5	50	0.5	50	45	C770	<b>~</b> }
DTC143E	NPN	4.7	4.7	0.8	1	1.2	100	-30	10	20	5	10	0.5	50	0.5	50	23	C768	OPO (Feeting)
DTC143X	NPN	4.7	10.0	1.7	2.1	2.6	100	-20	7	30	5	10	0.5	50	0.5	50	43	C769	
DTC143Y	NPN	4.7	22.0	3.7	4.7	5.7	100	-30	6	56	5	5	0.5	50	0.5	50		C785	
DTC143Z	NPN	4.7	47.0	8	10	12	100	-30	5	80	5	10	0.5	50	0.5	50	-	C775	
DTC144E	NPN	47.0	47.0	0.8	1	1.2	100	4	15	68	5	5	0.5	50	0.5	50		C782	
DTC144V	NPN	47.0	10.0	0.17	0.21	0.26	100			33	5	5	0.5	50	0.5	_		C774	
DTC144W	NPN	47.0	22.0	0.37	0.47	0.57	100	-40	10	56	5	5	0.5	50	0.5	50		C757	
DTC214Y	NPN	10	47	3.7	4.7	5.7	100	-40	6	68	5	5	0.5	50	0.5	50		C762	•
DTC1D3R	NPN	2.7	1.0			0.41	100	-15	15	20	5	30	0.5	50	0.5	50		C784	
<del></del>					_::::												.,,,,	<u> </u>	

		RESISTO	RVALUE	Vcbo	Voso	Vebo	ic		hFE				Icbo		lebo				
PART	TYP	R1	R2	Mex	Max	Max	Max	Min	Тур	Max	Voe	lc	Max	Vcb	Max	Veb.	PART	DIE	EQUIVALENT
NUMBER		(K)	(K)	3	(5)	8	(mA)				8	(mA)	(uA)	M	(uA)	8	MARK	TYPE	CIRCUIT
DTC143T	NPN	4.7	NONE	53	50	5	100	100	250	600	5	-	0.5	50	0.5	4	3	C764	
DTC114T	NPN	10.0	NONE	50	50	5	100	100	250	600	5	1	0.5	50	0.5	4	4	C785	
DTC124T	NPN	22.0	NONE	50	50	5	100	100	250	600	5	1	0.5	50	0.5	4	5	C771	R1 Colore
DTC144T	NPN	47.0	NONE	50	50	5	100	100	250	600	5	1	0.5	50	0.5	4		C772	
DTC115T	NPN	100.0	NONE	50	50	5	100	100	250	600	5	1	0.5	50	0.5	4		D864	
DTC125T	NPN	200.0	NONE	50	50	5	100	100	250	600	5		0.5	50	0.5		OA.	D863	
DTC113T	NPN	1.0	NONE	50	50	5	100	100	250	600	5	1	0.5	50	0.5	1		C786	

• •		RESISTO	R VALUE	Vcbo	Voec	Vebo	lc		hFE				Icbo		lebo	Т			
PART	TYP	R1	R2	Max	Max	Max	Max	Min	Тур	Max	Vœ	lc	Max	Vcb	Max	Veb	PART	DIE	EQUIVALENT
NUMBER		(K)	(K)	(0)	8	(2)	(mA)				(%)	(mA)	(uA)	8	(uA)	M	MARK	TYPE	CIRCUIT
DTC114G	NPN	0	10,0	50	50	5	100	30	•	•	- 5	5	0.5	50	580	4	K24	C780	
DTC124G	NPN	0	22.0	50	50	5	100	56	-		5	5	0.5	50	260	4		C781	Base o
DTC144G	NPN	0	47.0	50	50	5	100	68			5	5	0.5	50	130	4		C782	RE
DTC115G	NPN	0	100.0	50	50	5	100	82	-	-	5	5	0.5	50	58	4		D862	~
DTD114G	NPN	0	10.0	50	50	5	500	58	•		5	100	0.5		0.5	4		D726	

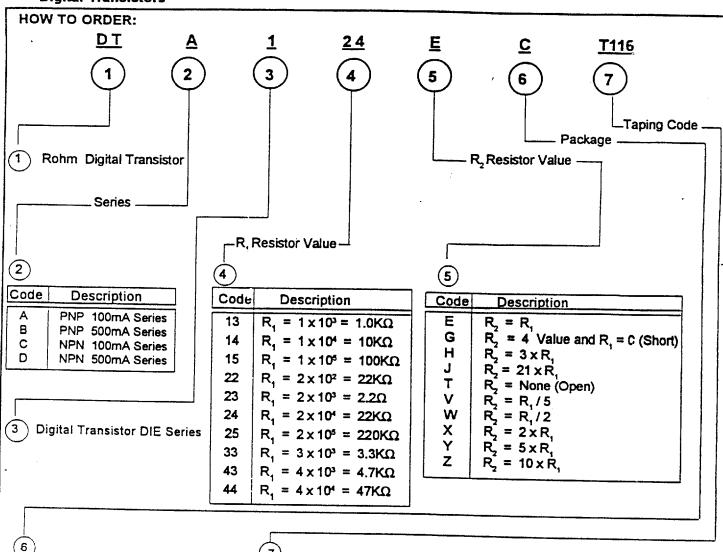
### ELECTRICAL CHARACTERISTICS: 500 mA Series

		RESISTO	RVALUE		R2/R		k	INPU	T VOLT	hFE		_	Icbo		loso	T		T	
PART NUMBER	TYP	R1 (K)	R2 (K)	Min	Тур	Mex	Mex (mA)		Max (V)	Min	Vœ	lc (mA)	Macc (UA)			1	PART	DIE	EQUIVALENT
DTD113E	NPN	1.0	1.0	0.8	1	1.2	500	-10	` '	33	5	50	0.5	50	0.5	50	MARK	TYPE D717	CIRCUIT
DTD113Z	NPN	1.0	10.0	8	10	12	500	-10	5	56	5	50	0.5		0.5			D718	
DTD114E	NPN	10.0	10.0	0.8	1	1.2	500	-40	10	56	5	50	0.5	50	0.5	_		D714	
DTD123E	NPN	2.2	2.2	0.6	1	1.2	500	-12	10	39	5	50	0.5	50	0.5	50		D712	No. RI COM
DTD143E	NPN	4.7	4.7	0.8	1	1.2	500	-30	10	47	5	50	0.5	50	0.5			D713	Re
DTD123Y	NPN:	2.2	10,0	3.6	4.5	5.5	500	-12	5	56	5	50	0.5	50	0.5			D715	
DTD122J	NPN	0.22	4.7	17.1	21.3	25.6	500	-5	5	47	5	50	0.5	50	0.5			D725	(Emm
DTD133H	NPN	3.3	10.0	2.4	3	3.7	500	-20	6	56	5	50	0.5		0.5			D719	

		RESISTO	RVALUE	Vabo	Voec	Vebo	∖ lc		hFE				icbo		lebo				
PART	TYP	R1	R2	Max	Max	Macc	Max	Min	Typ	Max	Voe	lc	Manc	Vch		rv.	PART	٠	5011111
NUMBER		(K)	(K)	8	8	8	(mA)		.,,,		3	(mA)			(uA)	1	MARK	DIE	EQUIVALENT
DTD1231	NPN	2.2	NONE	50	50	5	500	100	250	600	3	50	0.5		0.5			TYPE	CIRCUIT
DTD143T	NPN	4.7	NONE	50	50	5	500	100		600	-	50	0.5		0.5			D723	RI COMM
DTD163T	NPN	6.8	NONE	50	50	5	500	100		600	-5							D720	
DTD114T	NPN	10.0	NONE	50		-				Towns Co.	- 3	50	0,5	CHARLES	0.5	_	<b>E</b> 07	D721	
2.2.141		10.0	HONE	30	50	2	500	100	250	600	5	50	0.5	50	0.5	4	E04	D722	

6

### **Digital Transistors**



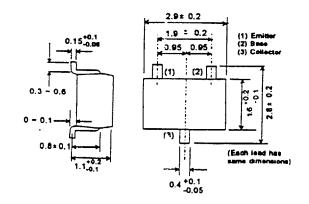
s 🗀	PKG	DESCRIPTION	TAPING CODE	DESCRIPTION	PKG. QTY.	PACKAGE SIZE
U R F	К	SMT (SC-59/JAPANESE SOT-23)	*T146 *T147 *T246	1 PIN SIDE ON FEED HOLE SIDE 2 PIN SIDE ON FEED HOLD SIDE 1 PIN SIDE ON FEED HOLE SIDE	3,000 3,000 10,000	178mm/7" Reel 178mm/7" Reel 330mm/13" Reel
A C E	С	SST (EUROPEAN SOT-23)	*T116 *T117 *T216	1 PIN SIDE ON FEED HOLE SIDE 2 PIN SIDE ON FEED HOLE SIDE 1 PIN SIDE ON FEED HOLE SIDE	3,000 3,000 10,000	178mm/7" Reel 178mm/7" Reel 330 mm/13" Reel
2	U	UMT (DTA & DTC ONLY)	*T106 T107	1 PIN SIDE ON FEED HOLE SIDE 2 PIN SIDE ON FEED HOLE SIDE	3,000	178 mm/7" Reel 178 mm/7" Reel
	E	EM3 (DTA & DTC ONLY)	*TL TR	1 PIN SIDE ON FEED HOLE SIDE 2 PIN SIDE ON FEED HOLE SIDE	3,000 3,000	178 mm/7" Reel 178 mm/7" Reel
	S	SPT (Short TO-92)	* TP NONE	AMMO BOX RADIAL BULK	5,000 2,000	W-335/H-135/D-40(mm) Polyethylene Bag
	<b>v</b>	ATV	* TV2 TV3	AMMO BOX RADIAL AMMO BOX RADIAL	2,500 2,500	W-334/H-280/D-41(mm) W-334/H-280/D-41(mm)
	L	FTL	TL2 TL3	AMMO BOX RADIAL AMMO BOX RADIAL	2,500 2,500	W-334/H-280/D-41(mm) W-334/H-280/D-41(mm)
	<b>F</b>	Discontinued	"NONE C1	BULK TUBE	2,000 8,000	Polyethylene Bag L-565/W-4.2/H-11.5(mm)
-	A	Discontinued	NONE C2	BULK TUBE	2,000	Polyethylene Bag L-565/W-4.2/H-12.6(mm)

Note: SOT-23, SC-59 and SPT packages are standard products.

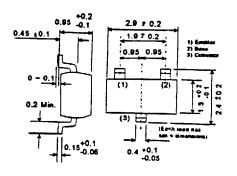
\* Standard Taping Codes

ROHM CORPORATION, Rohm Electronics Division, 3034 Owen Dr., Antioch, TN 37013 (615)641-2020 FAX (615)641-2022

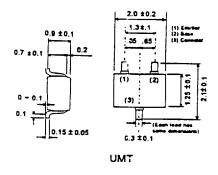
Surface Mount Packages: Unit (mm)

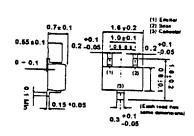


SMT (SC-59/Japanese SOT-23)

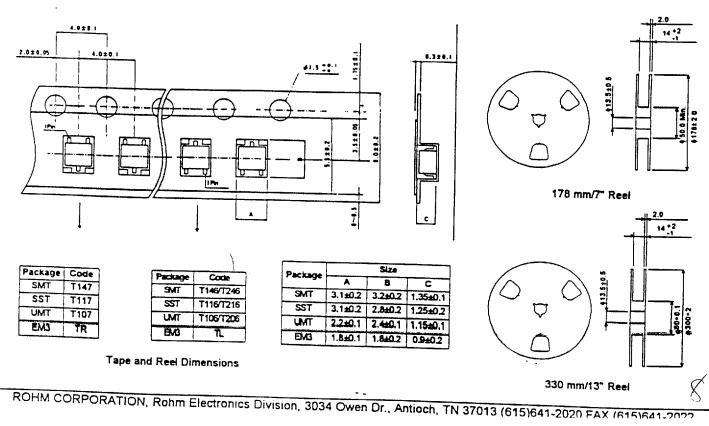


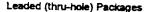
SST (European SOT-23)

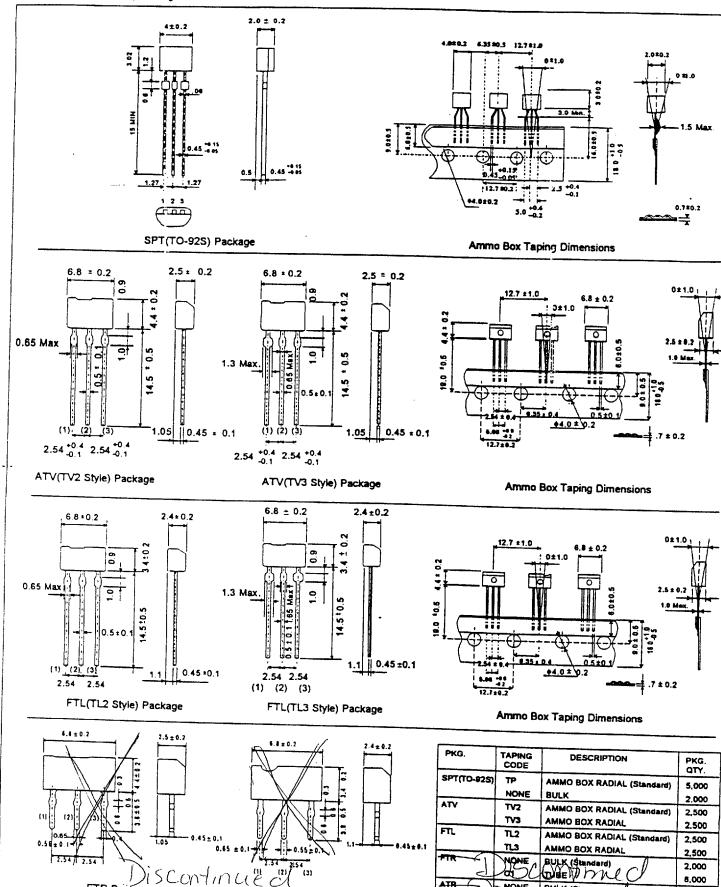




**ЕМ3** 







ROHM CORPORATION, Rohm Electronics Division, 3034 Owen Dr., Antioch, TN 37013 (615)641-2020 FAX (615)641-2022

ATR Package

BULK (Standard)

Might Y)

2,000

8,000

FTR Package