

Digital Transistors

Two transistors with built-in resistors (digital transistors) provide space savings, reduce the number of components needed and improve reliability. The two digital transistors are completely independent from each other. By making use of element saving feature, external circuit can be in any inverter or driver configuration.

UM6 (Suffix N) • IMD (6 pin type including 2 independent circuits)

● Built-in 2 resistors

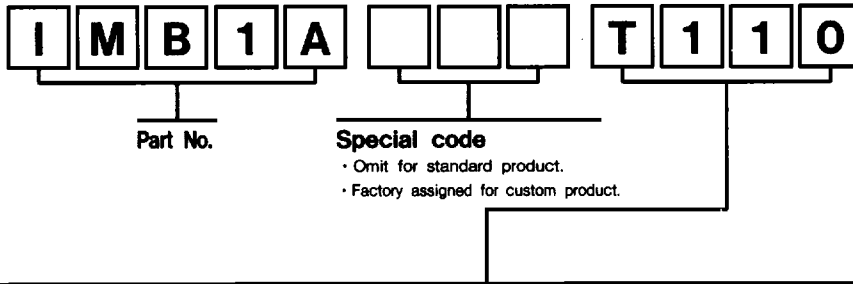
Equivalent circuit		Application	Package		Equivalent product	Resistance value		V _{CC} (V)	I _o (mA)	G _i	Vo (V) I _o (mA)	
TOP VIEW			UM6	IMD		R ₁ (kΩ)	R ₂ (kΩ)				Vo (V)	I _o (mA)
UM6	IMD		Part No.									
		Inverter Driver	UMB1N	IMB1A	DTA124EKA × 2	22	22	-50	-30	56~	-5	-5
			UMB2N	IMB2A	DTA144EKA × 2	47	47	-50	-30	68~	-5	-5
			UMB9N	IMB9A	DTA114YKA × 2	10	47	-50	-70	68~	-5	-5
			UMB10N	IMB10A	DTA123JKA × 2	2.2	47	-50	-100	80~	-5	-10
			UMB11N	IMB11A	DTA114EKA × 2	10	10	-50	-50	30~	-5	-5
			UMB5N	IMB5A	DTA124EKA × 2	22	22	-50	-30	56~	-5	-5
			UMB6N	IMB6A	DTA144EKA × 2	47	47	-50	-30	68~	-5	-5
			UMH11N	IMH11A	DTC124EKA × 2	22	22	50	30	56~	5	5
			UMH12N	IMH12A	DTC144EKA × 2	47	47	50	30	68~	5	5
			UMH9N	IMH9A	DTC114YKA × 2	10	47	50	70	68~	5	5
			UMH10N	IMH10A	DTC123JKA × 2	2.2	47	50	100	80~	5	10
			UMH11N	IMH11A	DTC114EKA × 2	10	10	50	50	30~	5	5
			UMH5N	IMH5A	DTC124EKA × 2	22	22	50	30	56~	5	5
			UMH6N	IMH6A	DTC144EKA × 2	47	47	50	30	68~	5	5
			UMD2N	IMD2A	DTA124EKA DTC124EKA	22 22	22	-50 50	-30 30	56~ 56~	-5 5	-5 5
			UMD3N	IMD3A	DTA114EKA DTC114EKA	10 10	10	-50 50	-50 50	30~ 30~	-5 5	-5 5
		-	IMD9A	DTA114YKA DTC114YKA	10 10	47	-50 50	-70 70	68~ 68~	-5 5	-5 5	

● Built-in 1 resistor

Equivalent circuit		Application	Package		Equivalent product	Resistance value	V _{CE0} (V)	I _c (mA)	h _{FE}	V _{CE} (V) I _c (mA)	
TOP VIEW			UM6	IMD		R ₁ (kΩ)				V _{CE} (V)	I _c (mA)
UM6	IMD		Part No.								
		Inverter Driver	UMB3N	IMB3A	DTA143TKA × 2	4.7	-50	-100	100~600	-5	-1
			UMB4N	IMB4A	DTA114TKA × 2	10	-50	-100	100~600	-5	-1
			UMB7N	IMB7A	DTA143TKA × 2	4.7	-50	-100	100~600	-5	-1
			UMB8N	IMB8A	DTA114TKA × 2	10	-50	-100	100~600	-5	-1
			-	IMB14A	DTA144TKA × 2	47	-50	-100	100~600	-5	-1
			UMH3N	IMH3A	DTC143TKA × 2	4.7	50	100	100~600	5	1
			UMH4N	IMH4A	DTC114TKA × 2	10	50	100	100~600	5	1
			-	IMH15A	DTC144TKA × 2	47	50	100	100~600	5	1
			UMH7N	IMH7A	DTC143TKA × 2	4.7	50	100	100~600	5	1
			UMH8N	IMH8A	DTC114TKA × 2	10	50	100	100~600	5	1
			-	IMH14A	DTC144TKA × 2	47	50	100	100~600	5	1
			-	IMD1A	DTA124TKA DTC124TKA	22 22	-50 50	-100 100	100~600 100~600	-5 5	-1 1
			UMD6N	IMD6A	DTA143TKA DTC143TKA	4.7 4.7	-50 50	-100 100	100~600 100~600	-5 5	-1 1
			-	IMD8A	DTA144TKA DTC144TKA	47 47	-50 50	-100 100	100~600 100~600	-5 5	-1 1

●Product Designation

- When ordering, specify the type.
- Check each code against the tables shown below.
- Fill a space with the next character.



Packaging

Package	Code	Packaging type	Packaging style	Direction	Quantity/Package (pcs)
UM6 (Suffix N)	TL	Taping	Embossed reel tape	Pin 1 opposite sprocket hole side	3,000
	TR			Pin 1 toward sprocket hole side	
	TN			Non-directional *	
IMD	T108	Taping	Embossed reel tape	Pin 1 opposite sprocket hole side	3,000
	T109			Pin 1 toward sprocket hole side	
	T110			Non-directional *	

(Unit : mm)

Package	UM6 (Suffix N)	IMD (SOT-36)		
Dimensions	<p>TOP VIEW</p> <p>Each lead has same dimensions</p>	<p>TOP VIEW</p> <p>Each lead has same dimensions</p>		
	Actual size	Enlarged (×3.0)	Actual size	Enlarged (×3.0)

●Packaging Specifications

(Unit : mm)

UM6 (Suffix N) IMD																			
Reel	Tape																		
	<table border="1" style="margin-bottom: 10px;"> <thead> <tr> <th rowspan="2">Package</th> <th colspan="3">Size</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>UM6</td> <td>2.2±0.1</td> <td>2.4±0.1</td> <td>1.15±0.1</td> </tr> <tr> <td>IMD</td> <td>3.1±0.1</td> <td>3.2±0.1</td> <td>1.35±0.1</td> </tr> </tbody> </table> <p>Feeding direction</p> <p>Sprocket hole</p> <p>Pin 1 (IMD)</p> <p>Pin 1 (UM6)</p> <p>Pin 1 (UM6)</p> <p>Pin 1 (IMD)</p> <p>A</p> <p>B</p> <p>C</p>	Package	Size			A	B	C	UM6	2.2±0.1	2.4±0.1	1.15±0.1	IMD	3.1±0.1	3.2±0.1	1.35±0.1			
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* Non-directional means Pin 1 may be toward or opposite the sprocket hole side when the devices inside are symmetrical.