



# Series 220

## 7x7mm Compact Rotary DIP Switch

- Robust metal bracket design
- Standard through hole and surface mount gull-wing terminal configurations
- Binary coded decimal, Hexadecimal code and Single pole output
- Clockwise or counterclockwise rotation



### Ordering Information

Series	Terminal Type	Actuator Height	Positions	Number of Type	Packaging
220	AM	A		04	R

Code	Spec.
AM	Surface mount gull wing, 3.8mm height
AD	Standard through hole, 3.6mm height

Code	Spec.
A	Flush arrow rotor
B	Knurled, slotted, flatted shaft
C	Knurled, slotted shaft

Code	Spec.
04	4 Positions
10	10 Positions
16	16 Positions

Code	Spec.
Blank	Tube packaging only for through hole terminals
R	Tape & reel packaging only for surface mount terminals

Notes: Contact CTS for other common features not listed.

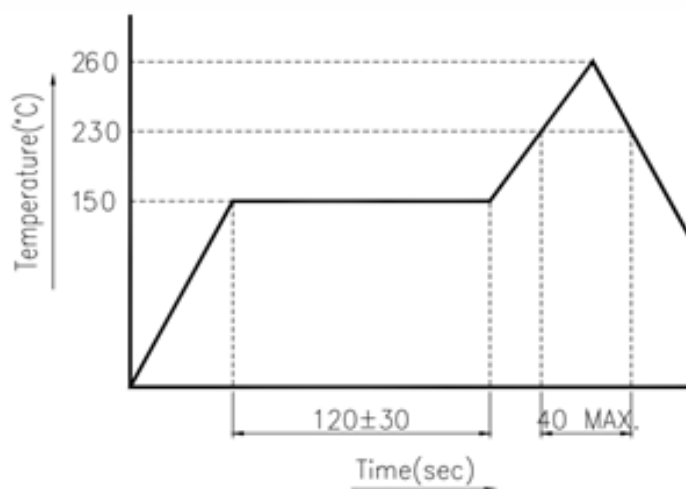
### Electrical Specifications

Parameter	Conditions & Remarks	Min	Max	Unit
Output	Binary coded decimal		10	position
	Hexadecimal		16	
	Single pole		4	
Contact Resistance			100	milliohms
Insulation Resistance	Between insulated terminals	1000		megohms
Dielectric Strength	250 Vac between adjacent switches		1	minute
Nonswitching Rating			100 or 50	mA or VDC
	Load	1 $\mu$ A 20m		VDC

### Mechanical and Environmental

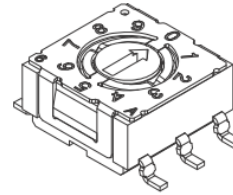
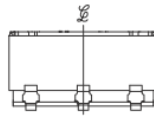
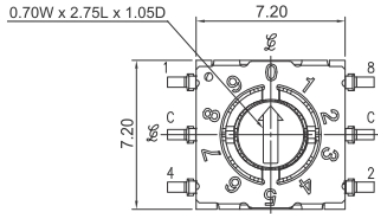
Soldering	Maximum reflow temperature, 260°C for 5 seconds Maximum wave temperature, 260°C for 10 seconds Maximum manual temperature, 350°C for 4 seconds
RoHS	Lead-Free. Fully compliant to RoHS
Rotational Torque:	40~200 gf-cm
Actuation Life	10,000 steps
Marking:	Special top marking available-consult CTS
Packaging :	Standard anti-static tube packaging for through hole terminal Standard tape and reel packaging for gull wing terminal
Operating Temperature Range	-40°C to +85°C
Storage Temperature Range:	-40°C to +85°C

### Soldering Profile



### Mechanical Specifications

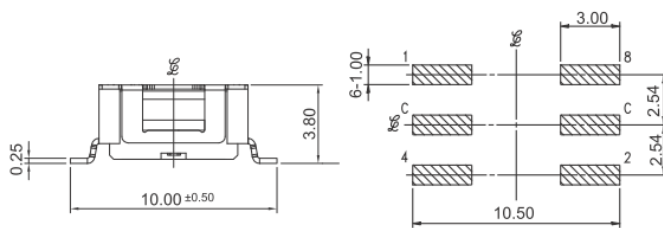
Figure 1 – 220AM\_10, 16R - Surface Mount Gull Wing, 10 and 16 Position



### CODE TABLE

		CODE			
		1	2	4	8
POSITIONS	0				
	1	●			
	2		●		
	3	●			
	4			●	
	5	●		●	
	6				
	7	●	●	●	
	8				●
	9	●			
A	●	●	●		
B	●	●	●		
C			●	●	
D	●	●	●	●	
E	●	●	●	●	
F	●	●	●	●	

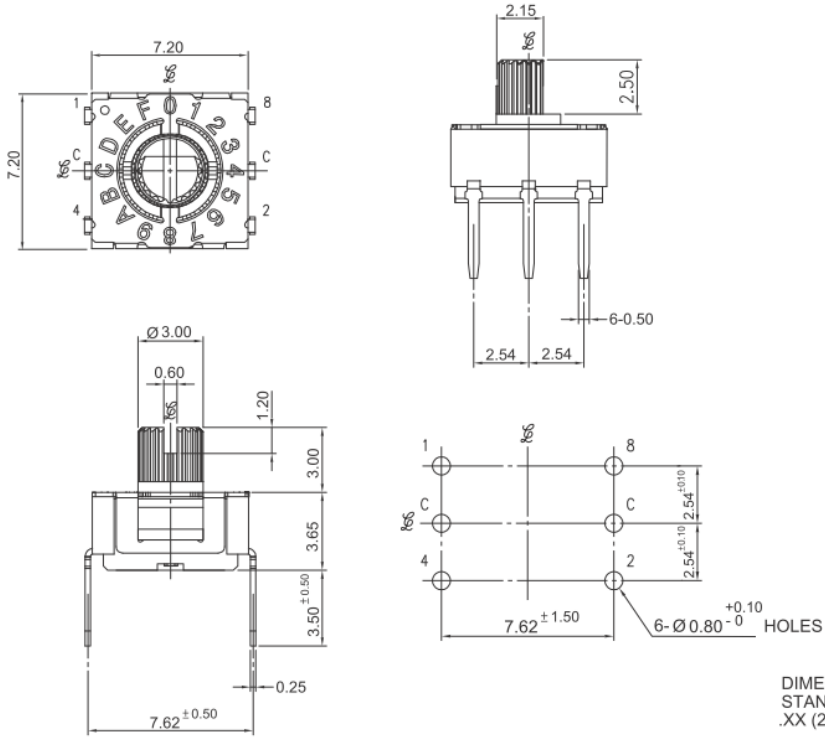
### PCB LAYOUT



DIMENSION : mm  
STANDARD TOLERANCE :  
.XX (2 PLACE) : ±0.30

Dot indicates terminal to common connection. All switches are continuous rotation.  
10 Position - Numbered 0 through 9  
16 Position - Numbered 0 through F

Figure 2 – 220AD\_10, 16 - Standard Through Hole, 10 and 16 Position



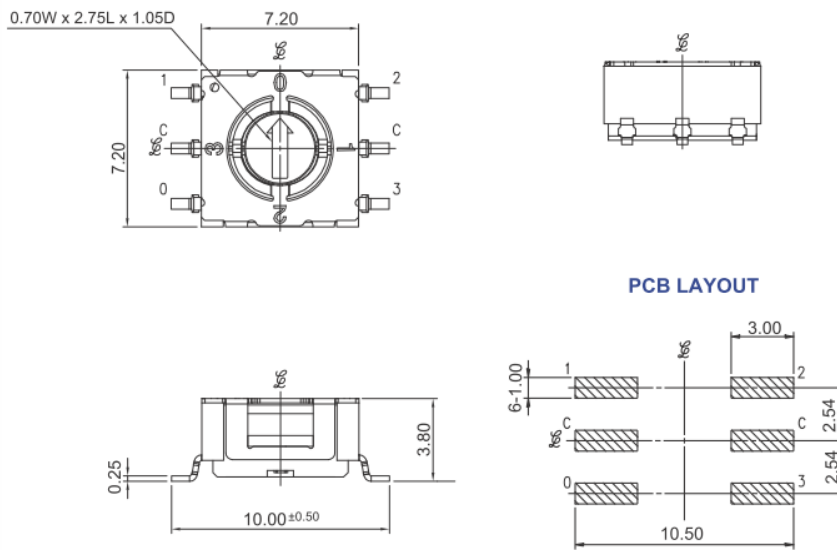
**CODE TABLE**

POSITIONS	CODE			
	1	2	4	8
0				
1	•			
2		•		
3	•	•		
4			•	
5	•			
6			•	
7	•	•	•	
8				•
9	•			•
A	•	•		•
B	•			•
C			•	•
D	•	•	•	•
E	•	•	•	•
F	•	•	•	•

Dot indicates terminal to common connection. All switches are continuous rotation.  
10 Position - Numbered 0 through 9  
16 Position - Numbered 0 through F

DIMENSION : mm  
STANDARD TOLERANCE :  
.XX (2 PLACE) : ±0.30

Figure 3 – 220AM\_04R - Surface Mount Gull Wing, 4 Position



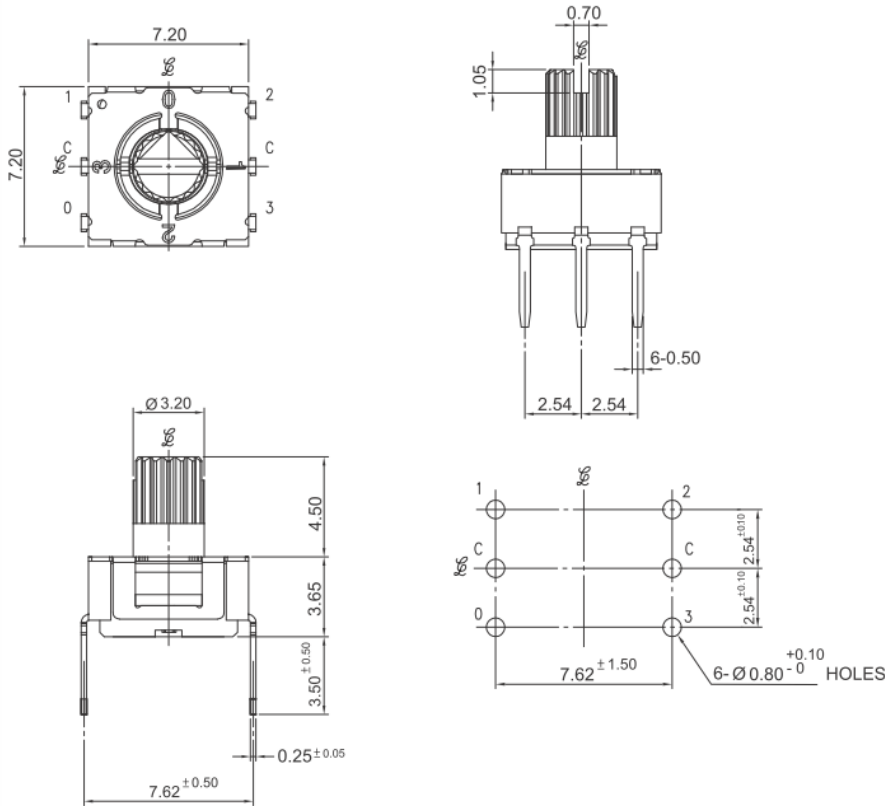
**CODE TABLE**

POSITIONS	CODE			
	0	1	2	3
0	•			
1		•		
2			•	
3				•

Dot indicates terminal to common connection. All switches are continuous rotation.  
4 Position - Single pole

DIMENSION : mm  
STANDARD TOLERANCE :  
.XX (2 PLACE) : ±0.30

Figure 4 – 220AD\_04 - Standard Through Hole, 4 Position



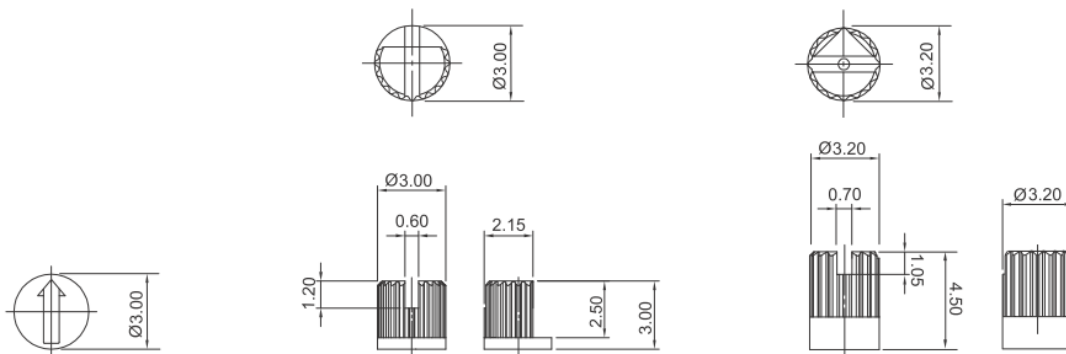
**CODE TABLE**

		CODE			
		0	1	2	3
POSITIONS	0	●			
	1		●		
	2			●	
	3				●

Dot indicates terminal to common connection. All switches are continuous rotation.  
4 Position - Single pole

DIMENSION : mm  
STANDARD TOLERANCE :  
.XX (2 PLACE) : ±0.30

**Actuator Options**



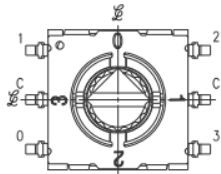
**A: FLUSH ARROW ROTOR**

**B: KNURLED, SLOTTED, FLATTED SHAFT**

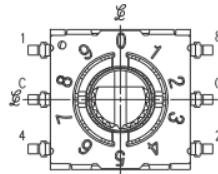
**C: KNURLED, SLOTTED SHAFT**

DIMENSION : mm  
STANDARD TOLERANCE :  
.XX (2 PLACE) : ±0.30

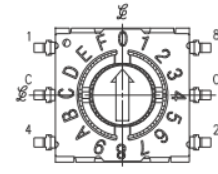
Position Options



04: 4 POSITIONS



10: 10 POSITIONS

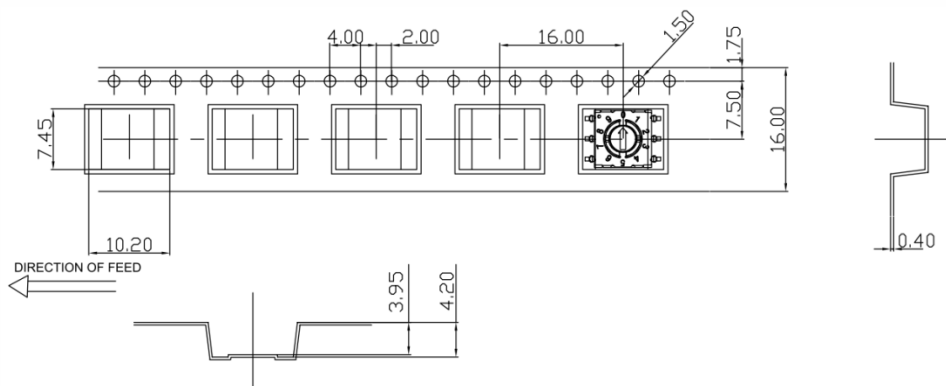


16: 16 POSITIONS

Packing: Tape and Reel

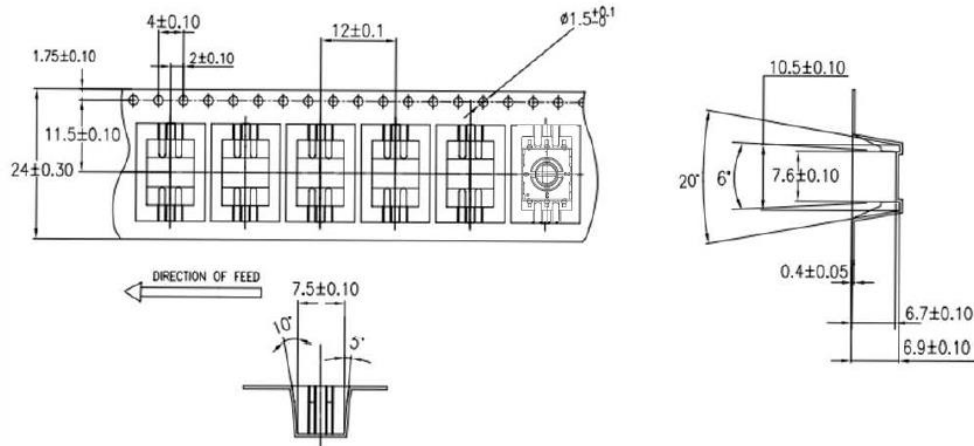
**TAPE :**

**(A) 220AMAxxR – MATERIAL & DIMENSIONS:**



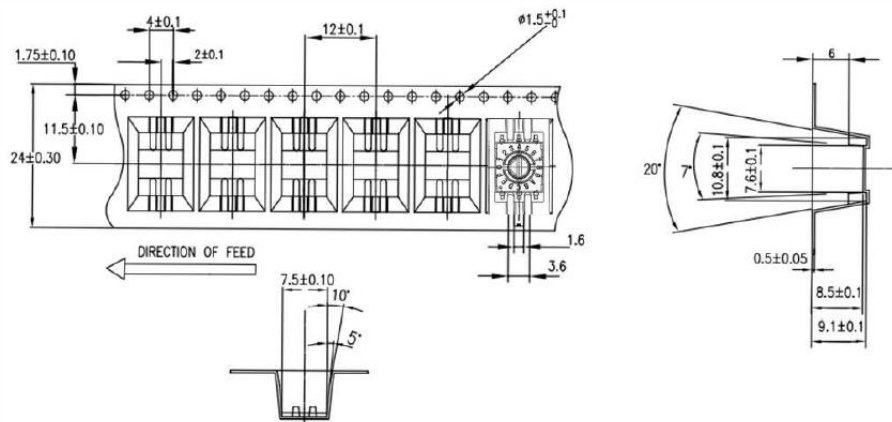
**MATERIAL: CONDUCTIVE POLYSTYRENE, BLACK COLOR.**  
**ALL DIMENSIONS MEET EIA-481-2A REQUIREMENTS.**  
**CARRIER TAPE THICKNESS: 0.40±0.05MM.**  
**PACKING LENGTH PER 13" REEL: 16.6 METERS.**  
**COMPONENT LOADED PER 13" REEL: 1038 PCS.**  
**SPQ: 1000 PCS/ REEL.**

**(B) 220AMBxxR – MATERIAL & DIMENSIONS:**



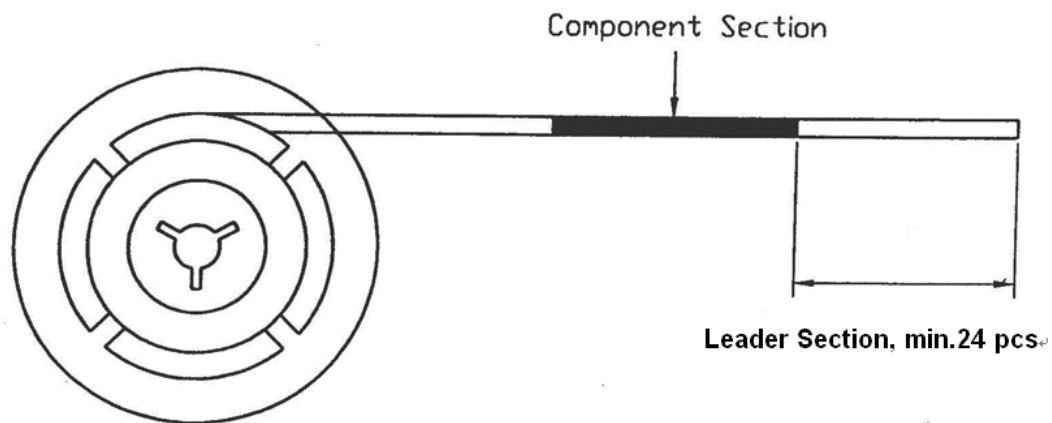
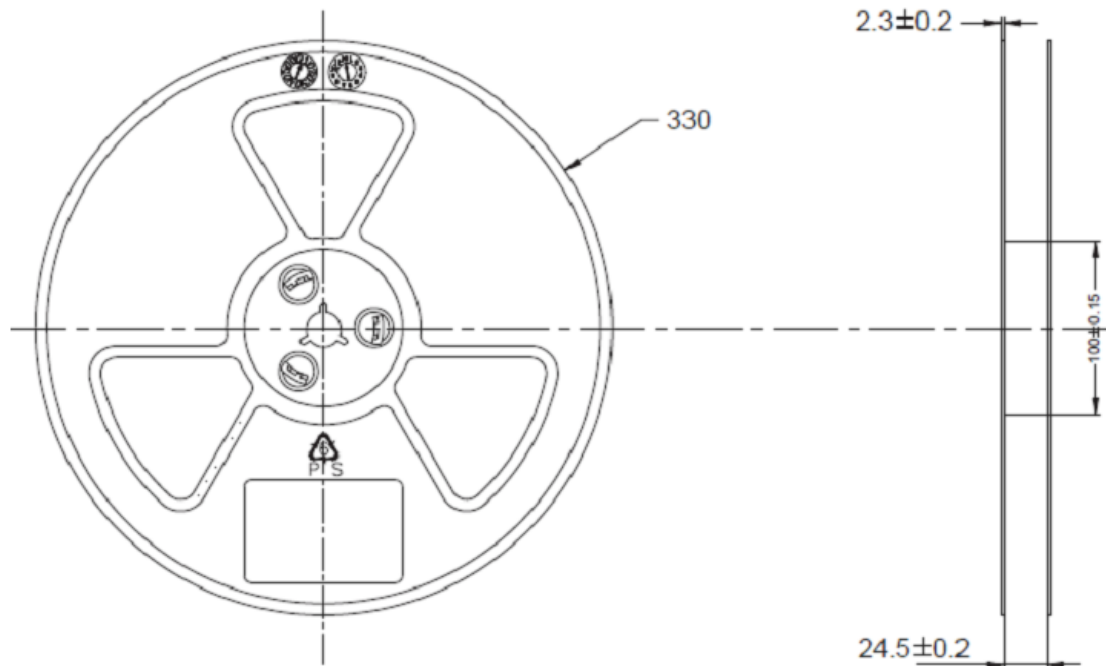
**MATERIAL: ANTI-STATIC POLYSTYRENE, TRANSPARENT, BLACK COLOR.**  
**ALL DIMENSIONS MEET EIA-481-B REQUIREMENTS.**  
**CARRIER TAPE THICKNESS: 0.40±0.05MM.**  
**PACKING LENGTH PER 13" REEL: 8.93 METERS.**  
**COMPONENT LOADED PER 13" REEL: 744 PCS.**  
**SPQ: 700 PCS/REEL.**

**(C) 220AMCxxR – MATERIAL & DIMENSIONS:+**



**REEL:**

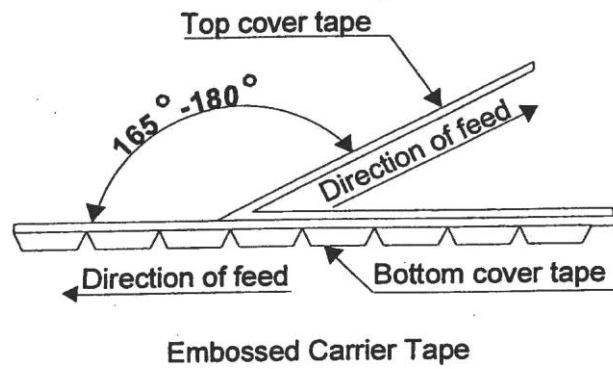
(A) SPECIFIED REEL PARTS DIMENSIONS : (COMMON TO ALL SMT COMPONENTS)



**TAPE BREAK FORCE, PEEL STRENGTH AND ANGLE:  
REQUIRED SETTINGS :**

- **TOP COVER TAPE PEEL FORCE : 10 ~ 140 gm**
- **ANGLE BETWEEN THE TOP COVER TAPE AND THE DIRECTION OF FEED DURING PEEL OFF : 165° ~ 180°**





**THE COVER TAPES MAY NOT EXTEND OVER THE DEGE OF THE CARRIER TAPE OR COVER ANY PART OF THE SPROCKETS HOLES.**

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Coded Rotary Switches](#) category:*

*Click to view products by [CTS](#) manufacturer:*

Other Similar products are found below :

[94HCB08W](#) [94HBB10W](#) [94HCB10WR](#) [PT65503RT](#) [P60AS703](#) [P60A503](#) [P65THR101L254](#) [RTE16](#) [LFTSVTPL](#) [13613](#) [GSDR-10S](#)  
[CRD10CM0SBR](#) [DRS4116](#) [RTE1600R44](#) [ERD116CSZ](#) [ERD116RSZ](#) [ERD716M06Z](#) [94HBB16WT](#) [94HBB10WT](#) [94HAC10T](#) [94HAB16T](#)  
[94HAB10WT](#) [94HAB10RAT](#) [94HAB08WT](#) [ERD216RSZ](#) [ND3FR10P](#) [DRR3110](#) [S-4010TA](#) [94HCB16WT](#) [94HCB16T](#) [94HCB10RAT](#)  
[94HCB08T](#) [94HAB16RAT](#) [94HAB10T](#) [94HAB08T](#) [S-2031A](#) [S-1010A](#) [RTE1000V14](#) [RTBH31BS10ANNZP](#) [PT65501L254](#) [PT65127L254](#)  
[PT65502L508](#) [1-1825007-1](#) [1-1825007-6](#) [ND3FR16B](#) [ND3FR16P-R](#) [SMR14116](#) [RTE0400N04](#) [RTE1000N14](#) [RTE1002G14](#) [RTE1002N14](#)  
[RTE1010N14](#)