## Absolute Maximum Rating

| Rating | Symbol | Value | Units |
|---|---|---|---|
| Peak Pulse Power (tp = 8/20µs) | $P_{PK}$ | 75 | W |
| Peak Pulse Current (tp = 8/20µs) | $I_{PP}$ | 5 | A |
| ESD per IEC 61000-4-2 (Air)(1)<br>ESD per IEC 61000-4-2 (Contact)(1) | $V_{ESD}$ | ±30<br>±25 | kV |
| Operating Temperature | $T_J$ | -55 to +125 | °C |
| Storage Temperature | $T_{STG}$ | -55 to +150 | °C |

## Electrical Characteristics (T=25°C unless otherwise specified)

| Parameter | Symbol | Conditions | | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|---|
| Reverse Stand-Off Voltage | $V_{RWM}$ | Any I/O to GND | | | | 5 | V |
| Reverse Breakdown Voltage | $V_{BR}$ | $I_{BR}$= 1mA, Any I/O to GND | | 6.5 | 9 | 11 | V |
| Reverse Leakage Current | $I_R$ | $V_{RWM}$ = 5V, Any I/O to GND | | | 5 | 100 | nA |
| Clamping Voltage | $V_C$ | tp = 8/20µs<br>Any I/O to GND | $I_{PP}$ = 1A | | | 12 | V |
| | | | $I_{PP}$ = 5A | | | 15 | |
| ESD Clamping Voltage[2] | $V_C$ | tp = 0.2/100ns<br>Any I/O to GND | $I_{TLP}$ = 4A | | 11 | | V |
| | | | $I_{TLP}$ = 16A | | 17 | | |
| Dynamic Resistance[2,3] | $R_{DYN}$ | tp = 0.2/100ns | | | 0.5 | | Ω |
| Junction Capacitance | $C_J$ | $V_R$ = 0V, f = 1MHz | Any I/O to GND | | 0.5 | 0.6 | pF |
| | | | Between I/O pins | | 0.25 | 0.4 | |

Notes

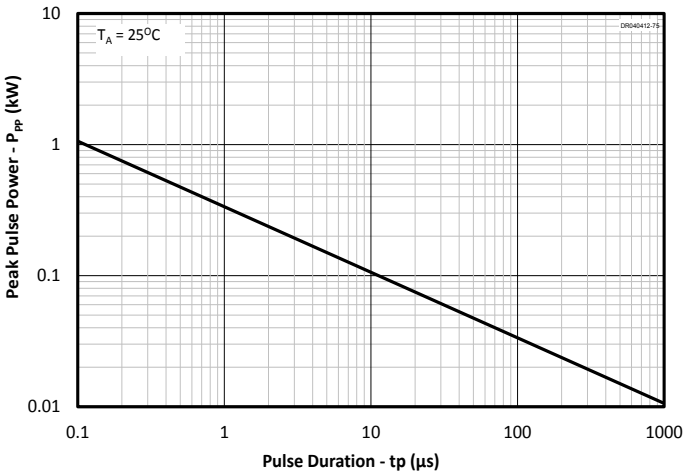
1) Measured with a 20dB attenuator, 50 Ohm scope input impedance, 2GHz bandwidth. ESD gun return path connected to ESD ground plane.

2) Transmission Line Pulse Test (TLP) Settings: tp = 100ns, tr = 0.2ns, $I_{TLP}$ and $V_{TLP}$ averaging window: t1 = 70ns to t2 = 90ns.

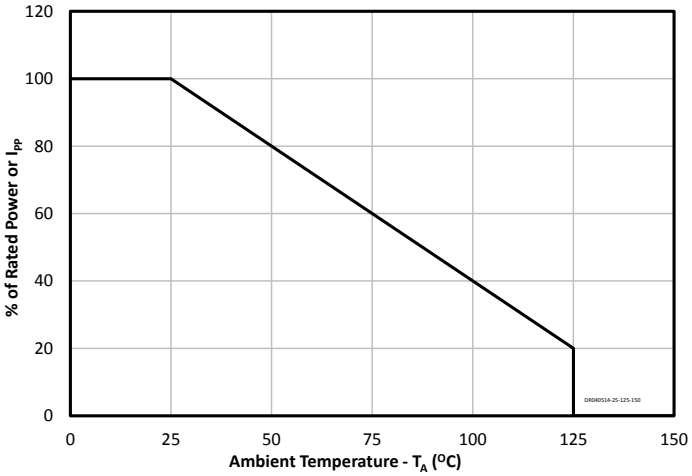
3) Dynamic resistance calculated from $I_{TLP}$ = 4A to $I_{TLP}$ = 16A

# Typical Characteristics

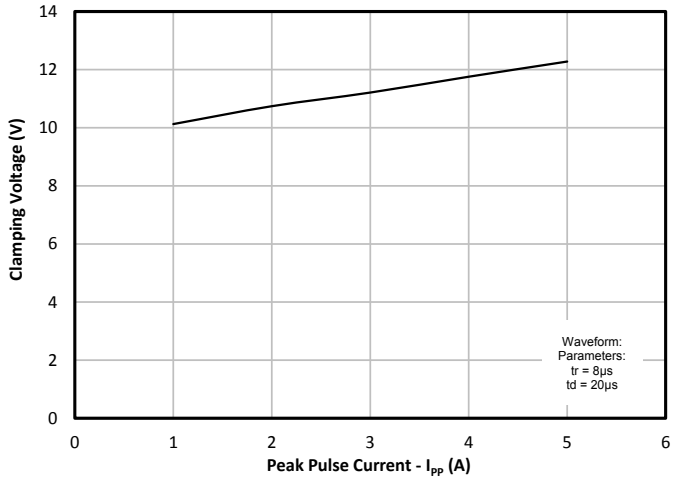
### Non-Repetitive Peak Pulse Power



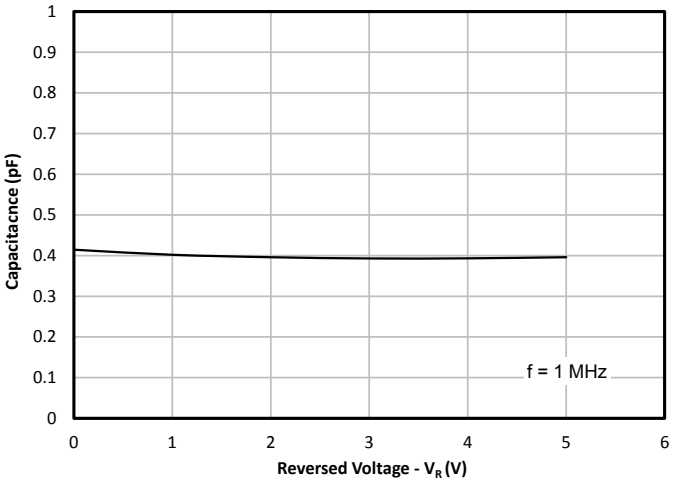

### Power Derating Curve



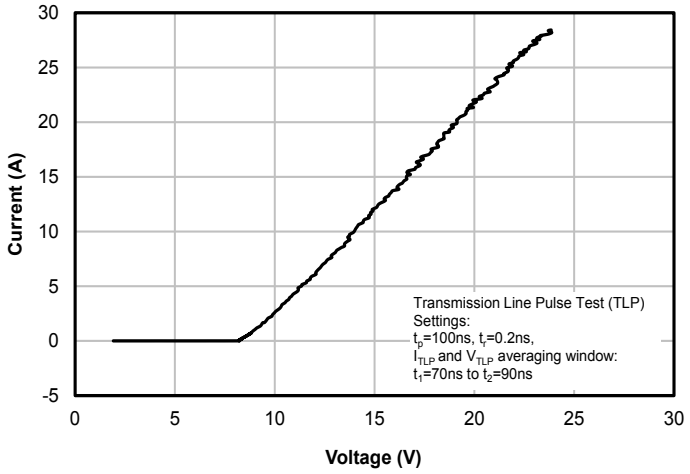

### Clamping Voltage vs. Peak Pulse Current (Between any I/O and Ground)



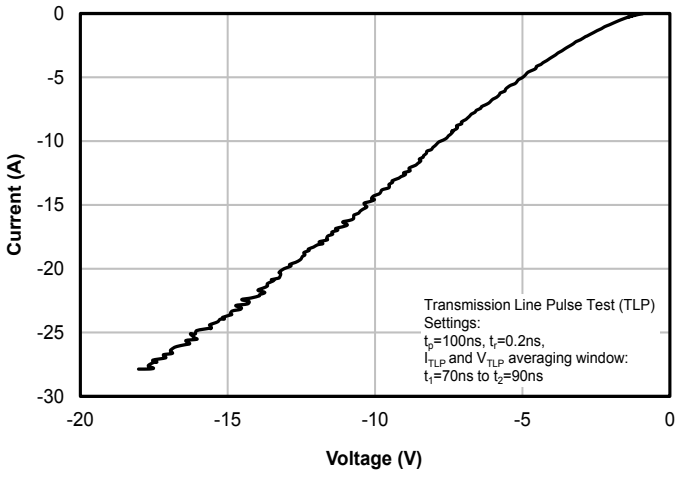

### Junction Capacitance vs. Reverse Voltage (Between any I/O and Ground)




### TLP Characteristic (Positive)

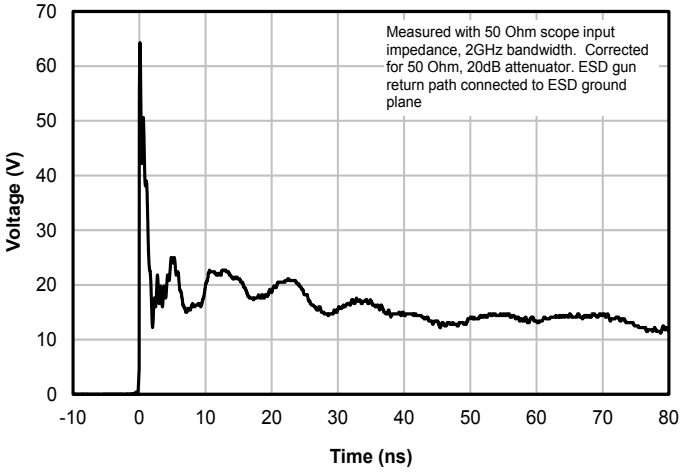



### TLP Characteristic (Negative)

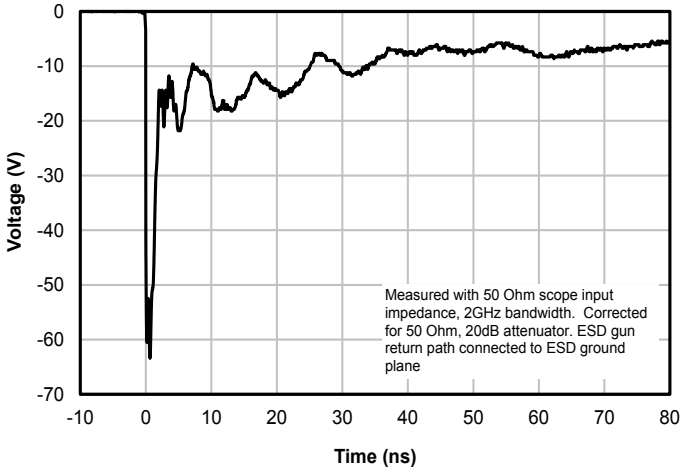


# Typical Characteristics (Continued)

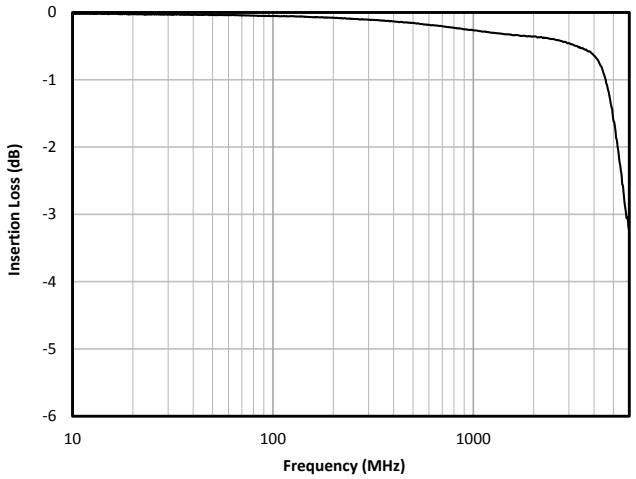
**ESD Clamping (+8kV Contact per IEC 614000-4-2)**
**(Between any I/O to Ground)**



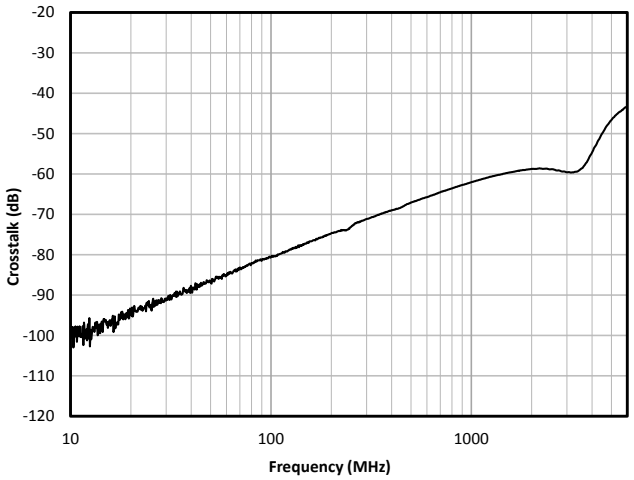

**ESD Clamping (-8kV Contact per IEC 614000-4-2)**
**(Between any I/O to Ground)**




**Typical Insetion Loss S21**




**Analog Crosstalk**

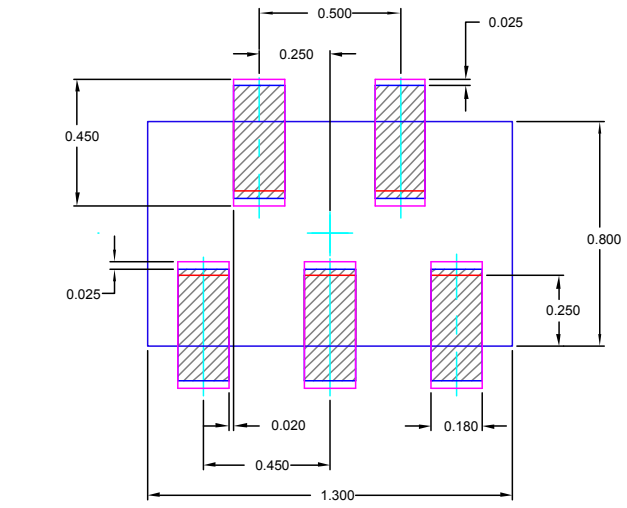


# Application Information

### Assembly Guidelines

The small size of this device means that some care must be taken during the mounting process to insure reliable solder joint. The table below provides Semtech's recommended assembly guidelines for mounting this device. The figure at the right details Semtech's recommended aperture based on the below recommendations. Note that these are only recommendations and should serve only as a starting point for design since there are many factors that affect the assembly process. The exact manufacturing parameters will require some experimentation to get the desired solder application.

| Assembly Parameter | Recommendation |
|---|---|
| Solder Stencil Design | Laser cut, Electro-polished |
| Aperture shape | Rectangular |
| Solder Stencil Thickness | 0.100 mm (0.004") |
| Solder Paster Type | Type 4 size sphere or smaller |
| Solder Reflow Profile | Per JEDEC J-STD-020 |
| PCB Solder Pad Design | Non-Solder mask defined |
| PCB Pad Finish | OSP Or NiAu |




All Dimensions are in mm.

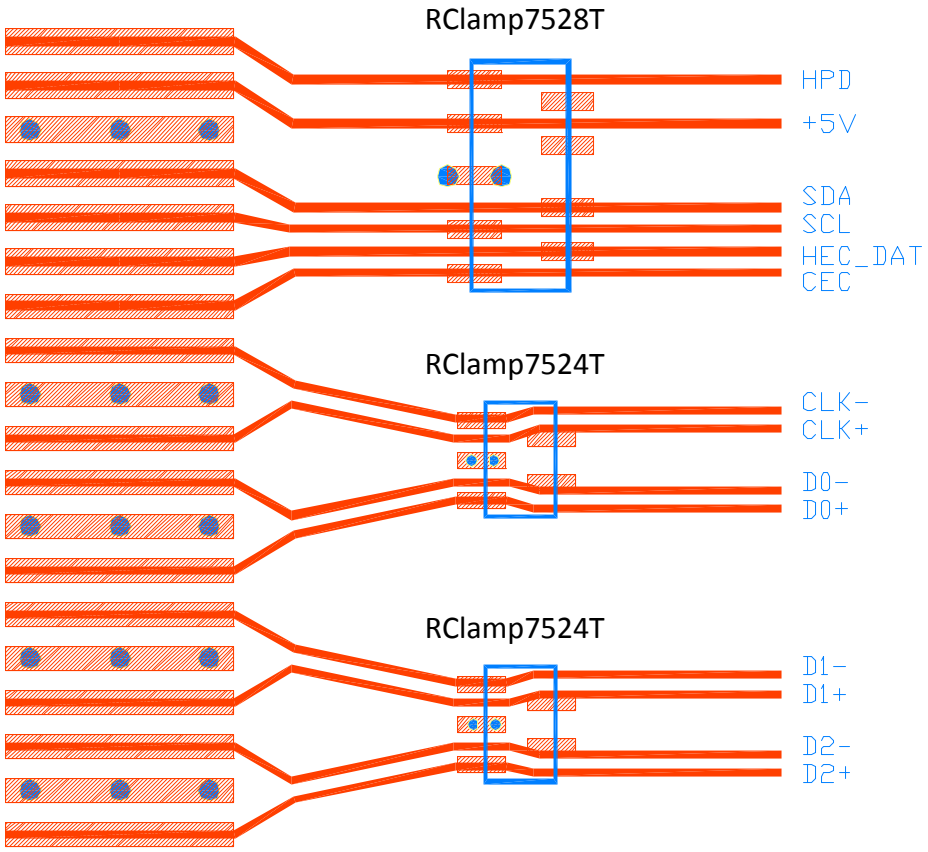
Land Pad. Stencil opening Component

**Recommended Mounting Pattern**

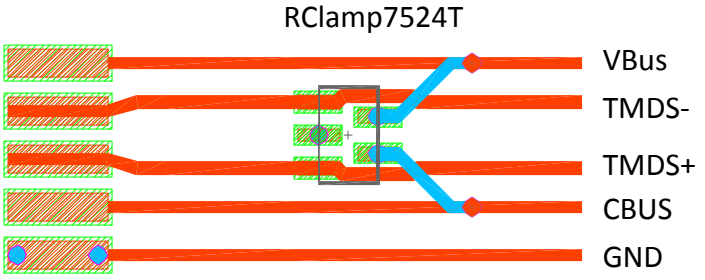
# Application Information

## Application Information

HDMI 1.4 Type A Connector

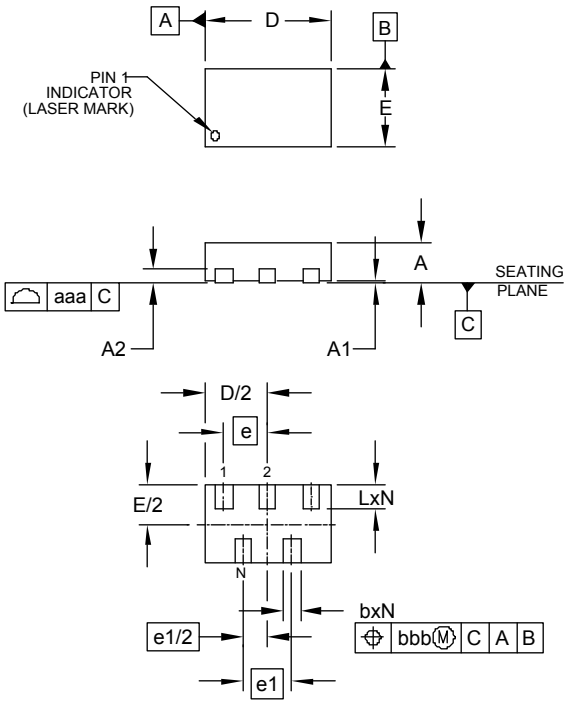



HDMI 1.4 Layout with RClamp7524T




MHL Layout with RClamp7524T

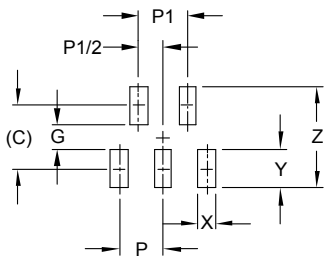
# Outline Drawing - SLP1308N5T




| DIMENSIONS | | | |
|---|---|---|---|
| DIM | MILLIMETERS | | |
| | MIN | NOM | MAX |
| A | 0.37 | 0.40 | 0.43 |
| A1 | 0.00 | 0.02 | 0.05 |
| A2 | | (0.13) | |
| b | 0.13 | 0.18 | 0.23 |
| D | 1.20 | 1.30 | 1.40 |
| E | 0.70 | 0.80 | 0.90 |
| e | | 0.45 BSC | |
| e1 | | 0.50 BSC | |
| L | 0.20 | 0.25 | 0.30 |
| N | | 5 | |
| aaa | | 0.08 | |
| bbb | | 0.10 | |

NOTES:
1. CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).

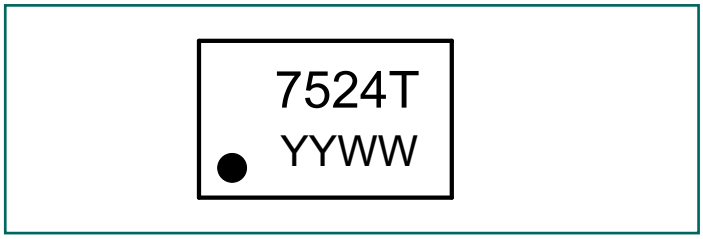
# Land Pattern - SLP1308N5T




| DIMENSIONS | |
|---|---|
| DIM | MILLIMETERS |
| C | (0.65) |
| G | 0.25 |
| P | 0.45 |
| P1 | 0.50 |
| X | 0.18 |
| Y | 0.40 |
| Z | 1.05 |

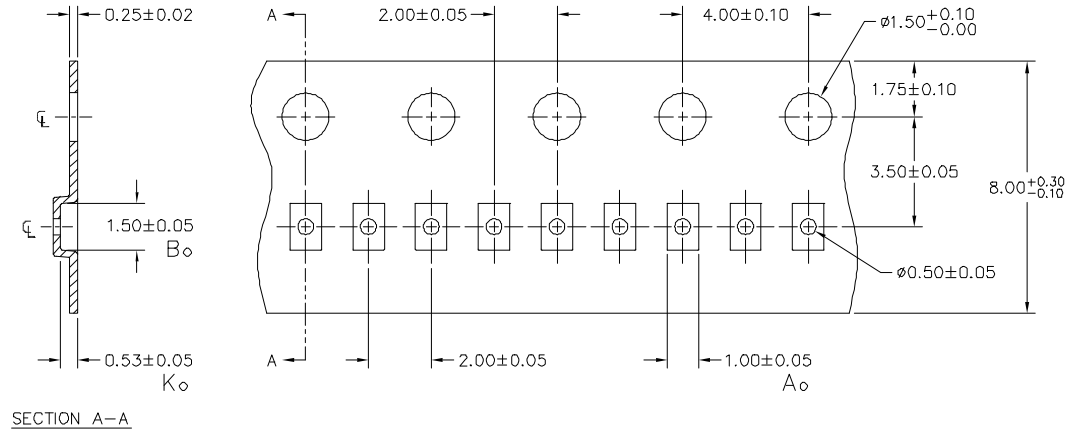
NOTES:
1. CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
2. THIS LAND PATTERN IS FOR REFERENCE PURPOSES ONLY.
CONSULT YOUR MANUFACTURING GROUP TO ENSURE YOUR
COMPANY'S MANUFACTURING GUIDELINES ARE MET.

## Marking Code

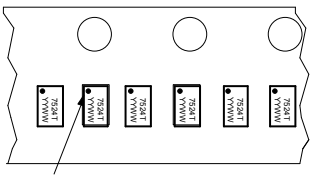



Note: YYWW = Date Code

## Tape and Reel Specification




NOTE: ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.



Pin 1 Location (Towards Sprocket Holes)

User Direction of feed

## Ordering Information

| Part Number | Qty per Reel | Reel Size |
|---|---|---|
| RClamp7524T.TNT | 10,000 | 7” |

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