THINKING

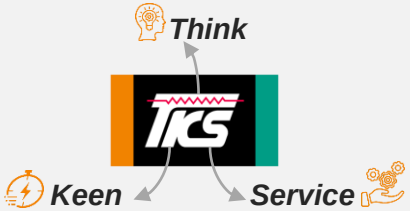
THINKING COMPANY PROFILE

January 2025, English Version

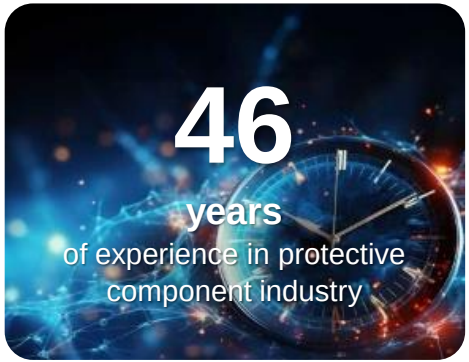
THINKING

COMPANY INTRODUCTION

Corporate Introduction

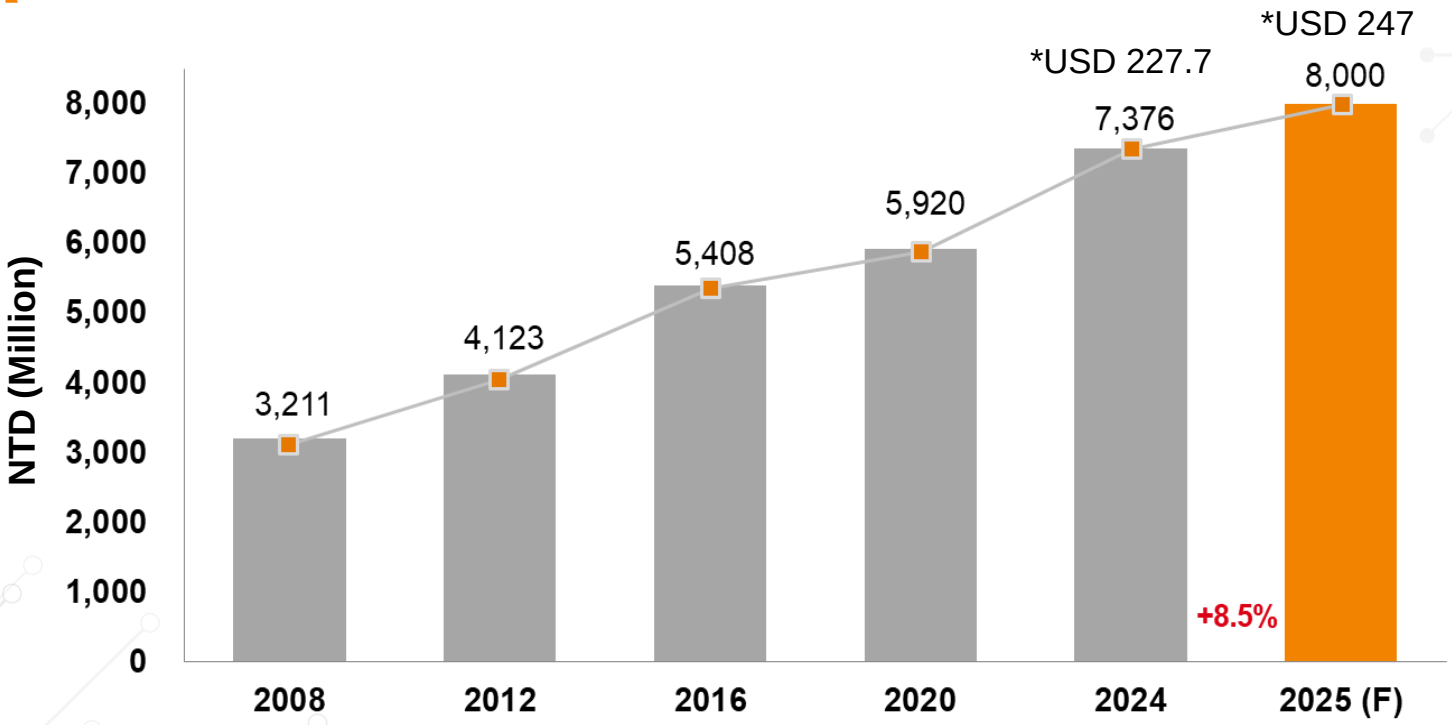


We “think” and “are keen” to offer customers “service.”



Corporate Introduction

2008-2025 Consolidated Net Revenue



* Using an exchange rate of 1 USD = 32.39 NTD

Milestone

Factory Establishment

1979
Kaohsiung Factory

1989
NTC Thermistor

Product Launch

1996
- Changzhou Factory
- Dongguan Factory

1997
Yilan Factory

1997
- Varistor
- PTC Thermistor

2000
THINKING went public

2002
Polymer PTC Thermistor

2007
Yichang Factory

2008
ESD Protector

2010
Gas Discharge Tube

2014
Jiangxi Factory

2016
Kaohsiung 2nd Factory

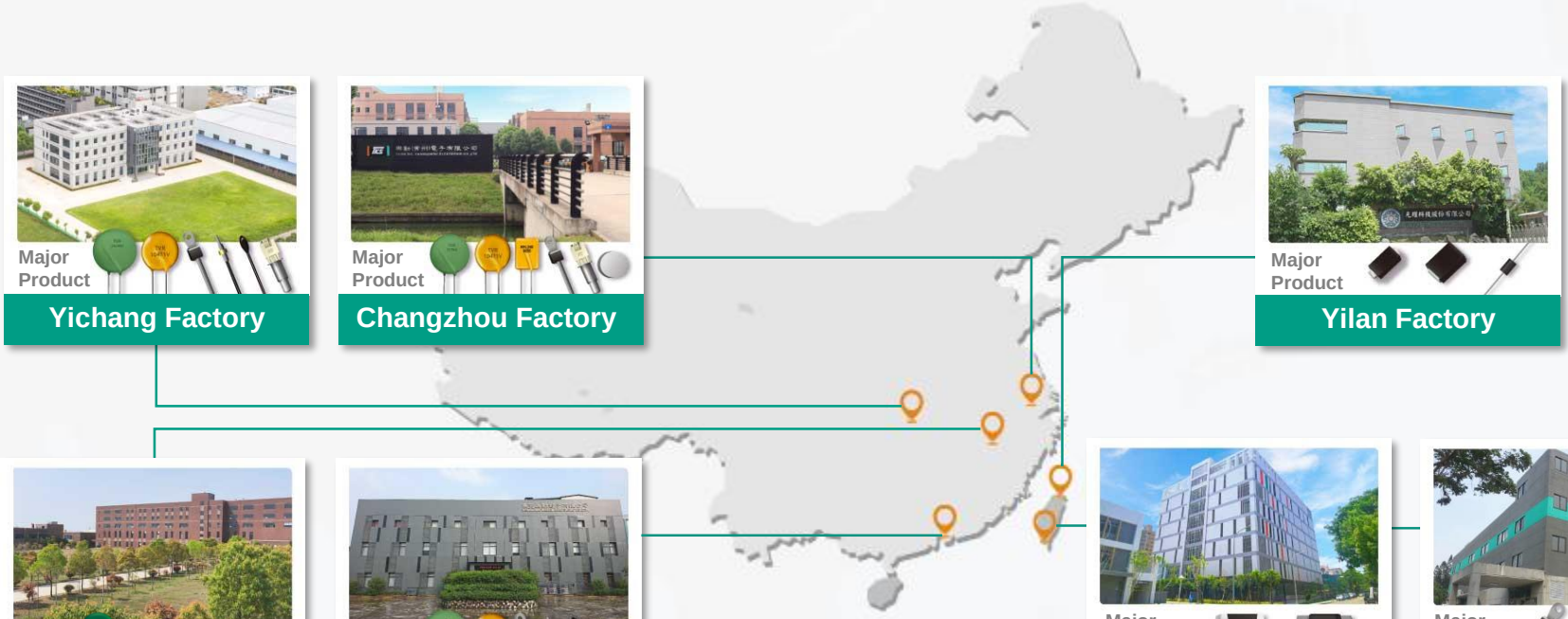
2016
TVS Diode

2018
Temperature Sensor for EV
- Battery
- Motor

2019–2023
Factory Expansion
- Kaohsiung
- Yichang

2024
- MOV & GDT Integrated Protector
- Temperature & Pressure Integrated Sensor
- Pressure Sensor

THINKING Factories



THINKING Products

Over-Temperature Protection


NTC Thermistor


PTC Thermistor


Temperature Sensor for General Purpose


Temperature Sensor for Electric Vehicle

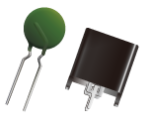

Temperature Sensor for Home Appliance

NEW


Temperature & Pressure Integrated Sensor

Over-Current Protection

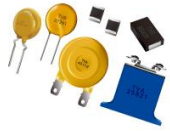

NTC ICL


PTC ICL


PTC Thermistor for Overload Protection


Polymer PTC Resettable Fuse

Over-Voltage Protection


Varistor


Gas Discharge Tube

NEW


MOV & GDT Integrated Protector


ESD Protector

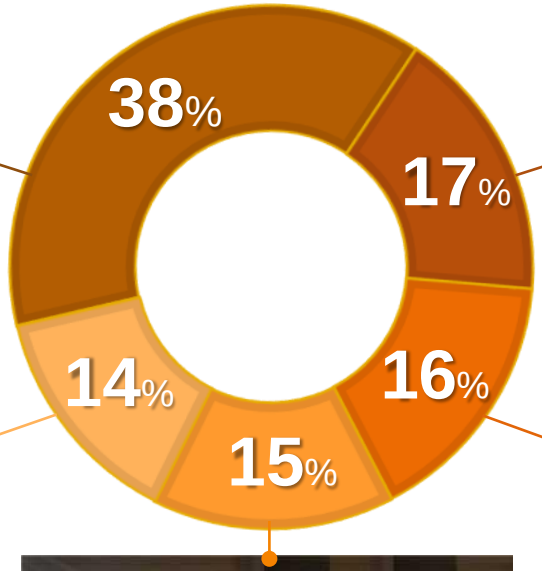

TVS Diode

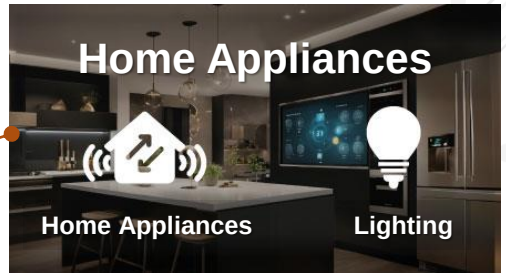

Spark Gap Protector

THINKING

MARKETS AND CUSTOMERS

Major Markets





Major Customers

Automotive

BYD, CATL 宁德时代, DELTA, Eberspächer, HELLA, HME, HUTCHINSON, INOVANCE, JAE, KET, LG Innotek, MAHLE, SOGEFI, UNO MINDA

Industrial

ABB, CHINT 正泰集团 CHINT GROUP, ebmpapst, GRUNDFOS, Schneider Electric, wilo

Networking & Telecom

Accton, HUAWEI, NOKIA, UBIQUITI NETWORKS, WNC Wistron NeWeb Corp., ZTE

Server & Data Center

aws, DELL Technologies, Hewlett Packard Enterprise, Inventec, Microsoft, Quanta Computer, wiwynn

Major Customers

PV & Energy Storage	BYD, CATL 宁德时代, DELTA, GROWATT, HITHIUM 海辰储能, solaredge, SUNGROW
Home Appliances	arçelik, BOSCH, BITRON, Electrolux, GREE, Haier 海尔, Midea, VESTEL, Whirlpool CORPORATION
Power Supply	AcBel, Advanced Energy, Chicony, DELTA, FSP, LITEON, MEAN WELL
Lighting	OSRAM, Signify, TRIDONIC
Consumer Electronics & TV	ASUS, COMPAL, LG Electronics, Panasonic, Quanta Computer, SHARP Be Original., SONY, SAMSUNG, wistron

TKS THINKING

MANAGEMENT SYSTEMS

THINKING ESG

ENVIRONMENTAL

- Green product
- Green production
- Green supply chain
- Increase the use of renewable energy

SOCIAL

- Support the promotional events of reading and e-bookstore projects of Kaohsiung City
- Employees participate in beach clean-up and tree-planting initiatives to contribute to ecosystem restoration

GOVERNANCE

Adhering to the RBA code of conduct, we uphold **labor rights**, ensure **health and safety**, protect the **environment**, conduct business with high **ethical standards**, and establish our **management systems**

Our Green Achievements[1]

9% reduction in GHG emissions

7% reduction in energy consumption

11% reduction in water withdrawal

4% reduction in waste generated

1. 2023 Sustainability Report

Certification of Management System

Quality Management System	Health and Safety Management System	Responsible Business Alliance Code of Conduct	Environmental Management System
ISO 9001-2015 IATF 16949-2016 QC 080000-2017	ISO 45001-2018	RBA Gold Status	ISO 14001-2015 ISO 14064-1:2006 (Greenhouse Gas Verification Statement) PAS 2050:2008 (Product Carbon Footprint Verification Statement/ Verified Product: TSM0402)

Agency Approval of Product

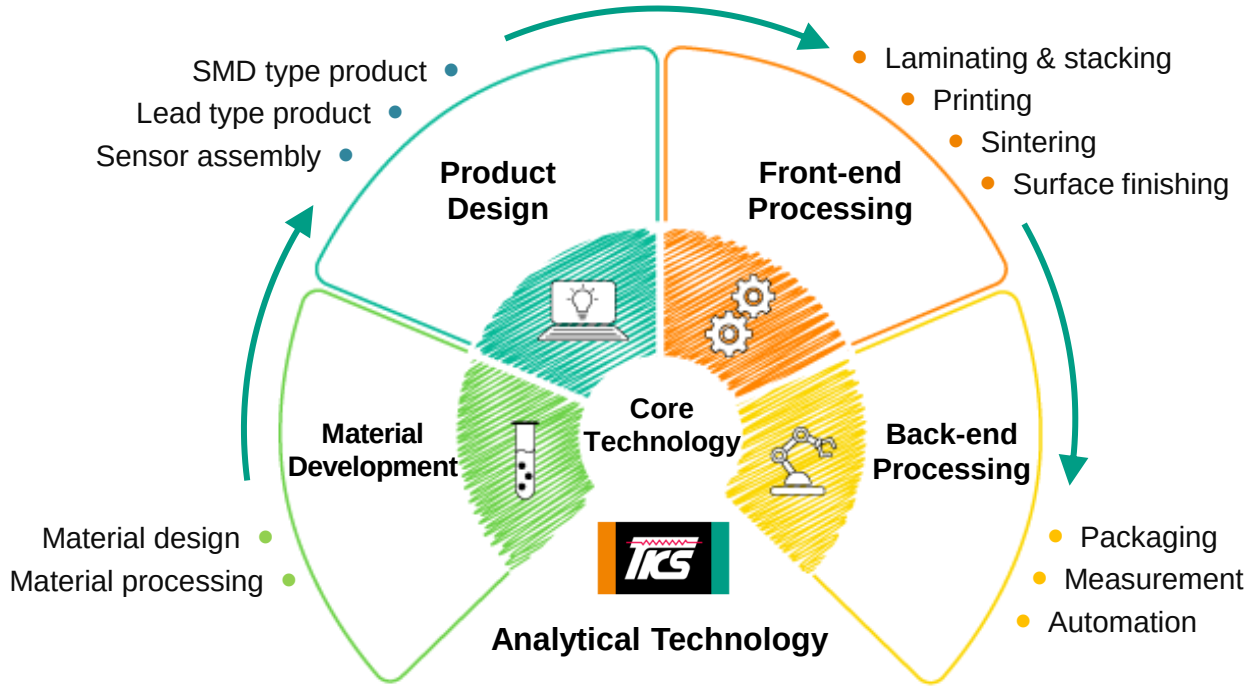
NTC Thermistor	NTC Temperature Sensor	PTC Thermistor	Polymer PTC Thermistor	Varistor	TVS Diode	Gas Discharge Tube
UL	UL	UL	UL	UL	UL	UL
TÜVRheinland CERTIFIED	TÜVRheinland CERTIFIED	TÜVRheinland CERTIFIED	TÜVRheinland CERTIFIED	TÜVRheinland CERTIFIED		TÜVRheinland CERTIFIED
CQC	CQC	CQC	CQC	CQC		
	DVE	DVE		DVE		
				STATE GRID CORPORATION OF CHINA		

Note: UL is for UL + cUL

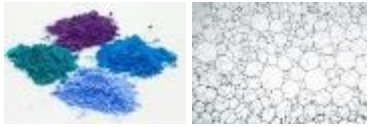
THINKING

COMPETITIVE STRENGTH

Core Technology

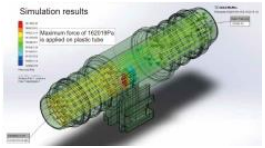


Material Development



Our know-how of key raw material and ceramic recipes make our products competitive in the market

Product Design



Our simulation technology ensures our precise product design

Back-end Processing

Automated production ensures our stable product quality

UL and TUV Certified Laboratories

Laboratories of THINKING passed the CTDP (Client Test Data Program) of UL and witness testing qualification of TUV, and they provide the following advantages.

- International laboratory management is based on **ISO 17025**
- Testing equipment and technicians **are aligned with those of approval agencies**, offering reliable test results
- In-house testing of THINKING products **shortens certification process** and **accelerates customer's new product launch**


Certificate of Participation
Thinking Electronic Industrial Co Ltd Nantze Branch


TÜV莱茵授权实验室
TÜV Rheinland Authorized Testing Lab

Customer Success Story

A customer approached THINKING to incorporate a Polymer PTC Resettable Fuse device from the KLM series into a Bluetooth speaker design set to launch in eight months. They requested an increase in the component's Vmax and the obtainment of its new UL and TUV certifications. Our team of test engineers promptly scheduled the necessary tests once the product engineering team provided an estimated timeline for increasing the Vmax. Leveraging our authorized testing laboratories, we completed the testing required for regulatory compliance and obtained the UL certification within three months and the TUV certification within four months.

Our seamless integration of product development and certified in-house testing service ensured the customer's on-schedule testing, validation, and mass production for a timely product launch.

Fast-Track In-House Testing for UL and TUV Certifications

UL — 3mths

TUV — 4mths

Technical Support

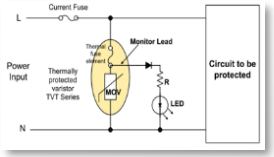
TECHNICAL CONSULTATION

THINKING AE discusses technical problems and shares application experience with customers

application examples

EXPERT DESIGN CONSULTATION

AE discusses circuit design with customers



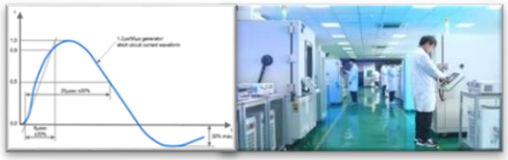
COMPREHENSIVE TECHNICAL SUPPORT

PRODUCT SELECTION

- AE selects products based on customer's specific needs
- Online product selection tools provide efficiency and flexibility

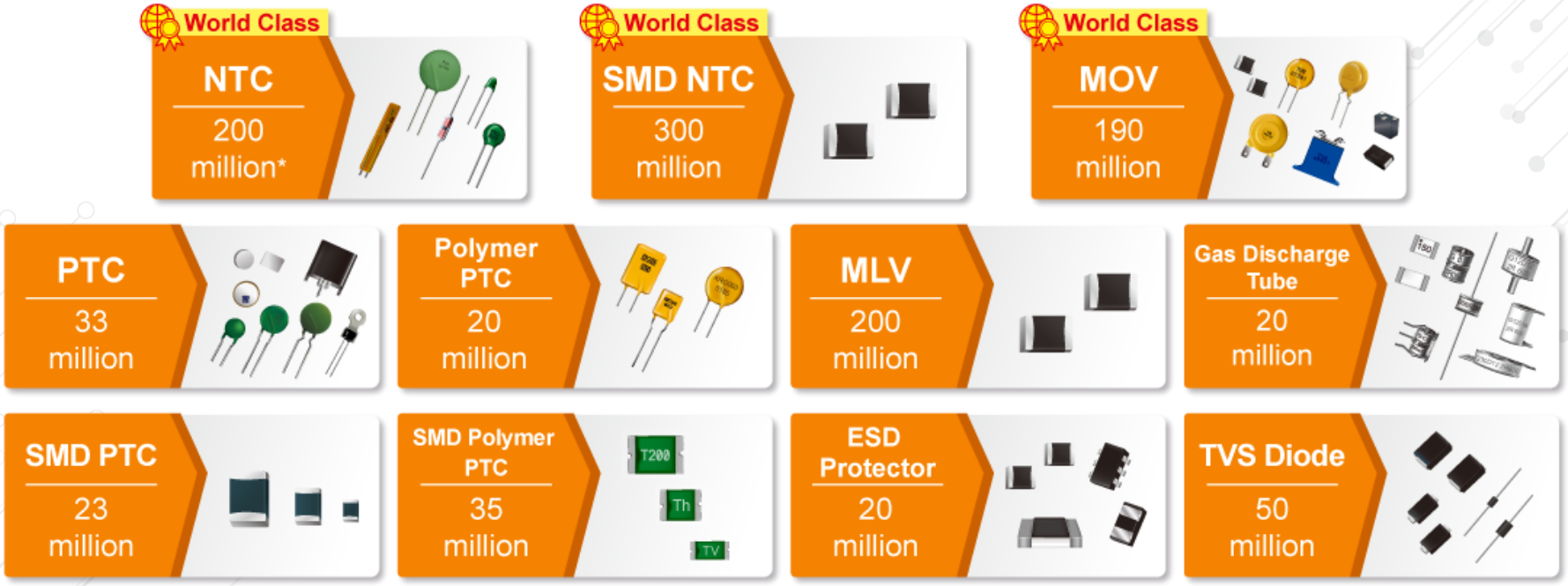
TESTING AND VALIDATION

Backed by our labs, AE assists in developing testing plans and evaluates the results with customers



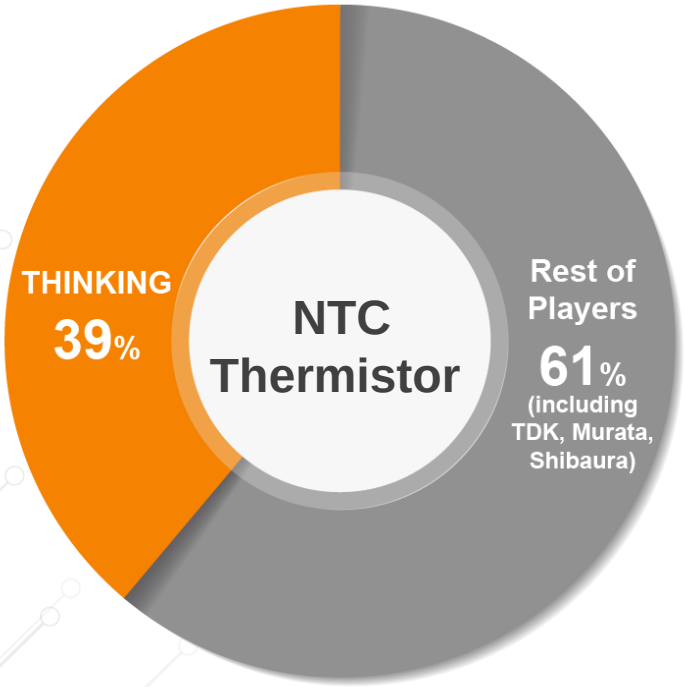
Economies of Scale

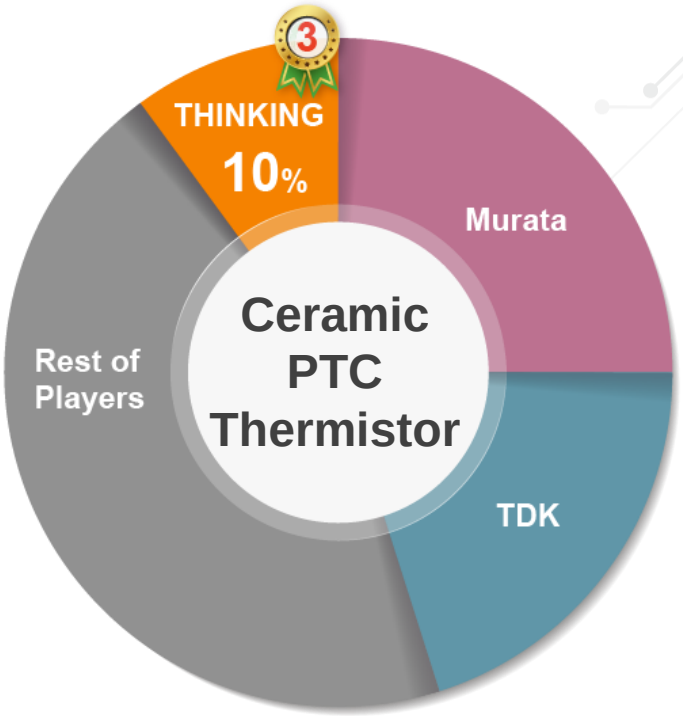
Unit: pcs/month



* 39 million pcs of NTC assembly products are included.

Market Positions of THINKING Products





Note:
1. Internal calculation
2. Data source: Circuit Protection Components: World Markets, Technologies & Opportunities: 2022–2027, Paumanok Publication

Market Positions of THINKING Products

THINKING disc varistor adheres to the highest standard for performance, reliability, and regulatory compliance.

- 1st and the only manufacturer to obtain UL1449A[1]
- Leading in Greater China to obtain VDE certification in accordance with the latest IEC61051-1 and IEC61051-2 standards[2]
- Wide operating voltage range provides diverse electronic devices over-voltage protection

1. UL 1449A - Outline of Investigation for Electric Vehicle (EV) Surge Protective Devices
2. DIN EN IEC 61051-1:2019-07, EN IEC 61051-1:2018; DIN EN IEC 61051-2:2023-10, EN IEC 61051-2:2021; IEC 61051-2-2:1991

Vision

Contribution to Human Life in

Continuous Expansion

Vietnam Factory


Zhongshan Factory

Expansion Plan	Location	Major Product	Estimated Time of Mass Production
Vietnam Factory	Hai Phong, Vietnam	• SMD components • Temperature sensors	H1 of 2026
Zhongshan Factory	Guangdong, China	• Protective components • Temperature sensors	Q3 of 2027

THINKING

Contribute to safety and
operation efficiency of electronics