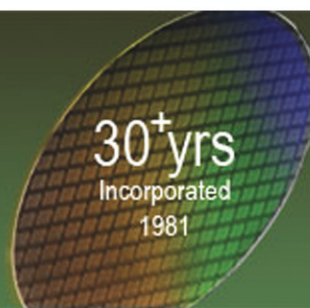




**ES Components**  
 Bare Die / SMT Distribution  
 Committed To  
 Discrete & Passive Components



**Innovative Solutions**  
 Diodes - Transistors  
 MOSFETS - JFETS- Optoelectronics  
 Resistors - Capacitors - Inductors

**Active DIE and Epoxy Mountable Components for Hybrid and MCM Applications**

**Bi-Polar Transistors / MOSFETS, JFETS**

Rad Hard, Military/Aerospace, Commercial  
 Low Voltage, High Voltage, Small Signal JFETS

**IC's**

MOSFET Drivers, LDO Regulators, OP Amps, Highbandwidth ECL

**Diodes**

Switching, Zener, Schottky Power, Military Qualified and Up Screened

**Resistors**

Thin Film, Thick Film, Precision Foil, Wire Bondable and SMT, Military / Space / High Temp Qualified

**Capacitors**

Ceramic Multilayer, Tantalum, High Frequency, MIL-PRF-123 Qualified

**Inductors**

Power, SMT, Conical, Custom, Military Qualified

**RF / High Frequency Products**

Caps, Silicon MIS Caps, Attenuators, Limiter Diodes, PIN Diodes, PIN Beamlead Diodes  
 Varactor Diodes, Schottky Silicon and GaAS Chips, Schottky 0201 SMT Devices, RF Switches

**DMSMS**

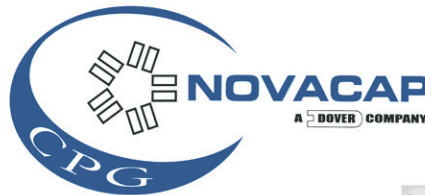
Large Inventory of Obsolete / Hard to Find Die

**"OTSI" Off The Shelf Inventory / Ship From Stock In 24 Hours**



**ALL VISHAY PRODUCTS Including:**

- BC Components
- Dale
- Electro-Films
- Semiconductors
- Sfernice
- Siliconix
- Sprague
- Thin-Film
- Vitramon



 +  = **ES Components Exclusive Diodes**

- Off-The-Shelf Alternatives
- High Quality - High Reliability
- Automotive Grade / MIL Upscreen
- 600 Generic Types and Growing
- Reasonably Priced



# ES Components

Bare Die / SMT Distribution

Committed To  
Discrete & Passive Components



Innovative Solutions

Diodes - Transistors  
MOSFETS - JFETS- Optoelectronics  
Resistors - Capacitors - Inductors

**Bare Die For Hybrid and Multi Chip Module Applications Wire Bondable, Epoxy Attachable  
MIL-PRF-38534/38535/19500 E.E. and LAT To Class H & K Available**

## Analog and High Bandwidth IC's

### MICREL

ECL Alternatives (10/100E, EL, LVEP)  
FET Drivers (MICxxxx) / LDO (Low Drop Out) Regulators  
Obsolete "LMxxx" Alternatives  
Operational Amplifiers / Voltage Regulators

### SILICONIX

Analog Switches ( Siliconix DGxxx)

## Bi-Polar Transistors

### SEMICOA

Bi-Polar Transistors, Rad Hard  
Mil/Aerospace, Commercial

## MOSFETS

### SILICONIX (and IR Divested) / SEMICOA

Low Voltage/High Voltage Power MOSFET's (To 1000V)  
JFETS (Limited to On-Hand Inventory)  
Commercial, Mil/Aerospace, Rad Hard

## RF / High Frequency Products

### SKYWORKS

Silicon MIS Chip Capacitors	Fixed Attenuator Pads
Limiter Chip Diodes	PIN Chip Diodes
PIN Beamlead Diodes	Varactor Chip Diodes
Schottky Silicon Chip Diodes	RF Switches In Die Form
Schottky GaAs Flip Chips (Up To 100 GHz)	
Schottky 0201 SMT Device (Up To 100GHz)	

## Capacitor Chips, Ceramic

### NOVACAP, VISHAY VITRAMON

MLCC With Palladium Silver Terminations  
NPO, X7R, BX, OMD, HIQ  
"Arc-Guard" X7R High Voltage Chips  
High Temp (+200°C) Ceramic Chip Caps  
Magnetic Free SMT, Silver Palladium Terminations  
Polymer Terminated Chip Caps  
Cer-F High Frequency Filtering Caps  
CDR MIL-PRF-55681

## Capacitor Chips, Tantalum

### VISHAY: SPRAGUE, TANSITOR

Tantalum Chip Caps With Gold Terminations  
195D, 594D, 595D, 695D Gold Plated  
298D *Microtan*® With Gold Terminations  
0402 / 0603 / 0805 Case Sizes  
Now Available: 22uF / 0402 Size  
T86 Hirel(MIL-PRF-55365) COTS *Tantamount*® SMT  
Low ESR, Built-In Fuse, Tin/Lead Plating  
High Temp (200°C) Tantalum Chip Caps  
194D, 293D, CWR 06/11, MIL-PRF-55365

## Inductors

### VISHAY DALE

WSL/WSR Epoxy Attachable  
High Frequency Inductors  
Power Inductors (IHLP/IHLM)  
Toroids, Chip Inductors

### GOWANDA

Custom Inductors  
Conical Inductors  
MIL Qualified Inductors  
High Frequency

## Diodes, Power

### SENSITRON, VISHAY SEMICONDUCTORS

Bondable and Solderable Metals, Including Gold  
Rectifier 1N4001/6, 1N5806/11, 1N5811, MURCxxx  
Schottky Diodes (1A - 150A / 15V - 200V)  
1N5819, 1N5821, 1N5825  
Thyristors and SCR's  
TVS Diodes (to 5000W)  
P4, P5, P6KE, 5KP, SMA/B/C Series  
Zener Diodes (Power, 1W - 50W)  
1N44xx, 1N49xx Families

## Diodes, Small Signal

### SENSITRON, VISHAY SEMICONDUCTORS (and IR Divested)

ESD Diodes  
Hot Carrier (Schottky) Diodes, 1N5711  
Switching Diodes  
1N914, 1N4148, 1N4150, 1N6640, 1N6642  
Zener Diodes (to 500mW)  
1N746, 1N4099, 1N4617, 1N55xx Families and More

## Resistor Chips, Thin Film

### VISHAY: EFI, SFERNICE, VTF

20x20, 30x30 Wire Bondable  
BCR, CTR, SFM NiChrome Chips  
High Value SiChrome Chips  
High Temp (+200°C) Chips & Wrap-Arounds  
Custom Resistor Networks  
MIL-PRF-55342 Gold Termination  
Microwave Wire Bondable Chips

## Resistor Chips, Thick Film

### VISHAY: DALE, TECHNO, VTF

Low Value WSL/WSR Chips  
Custom Thick Film Chips  
CRHV High Voltage Thick Film Chips  
MIL-PRF-55342 Gold Termination SMT

## Custom Thin Film Products

### VISHAY EFI

Custom Thin Film Substrates  
High Conductivity Power Substrates  
MOS/NMOS Thin Film Capacitors  
*Spiral Inductors, Fixed and Adjustable*

## Precision Foil Resistors

### VISHAY PRECISION GROUP / ALPHA ELECTRONICS

Screening To Class "K"

## Thermistors

### VISHAY BC COMPONENTS

PTC / NTC