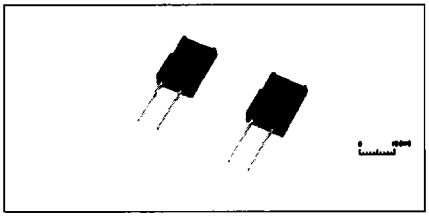
2 NEW PRODUCTS DIGEST

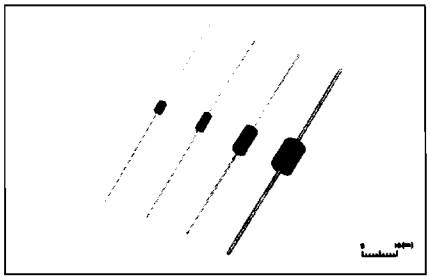
High-Breakdown Voltage (400V, 600V), High-Efficiency Diode (HED)



For primary flywheel use (600V) and secodary rectification use (400V) in compact, high-efficiency switching power supplies.

5GLZ47A : V_{RRM}=400V, $I_{F(AV)}$=5A, t_{rr}≦35ns
TO-220(N)IS (Center Lead Cut Type)
5JLZ47 : V_{RRM}=600V, $I_{F(AV)}$=5A, t_{rr}≦50ns
TO-220(N)IS (Center Lead Cut Type)

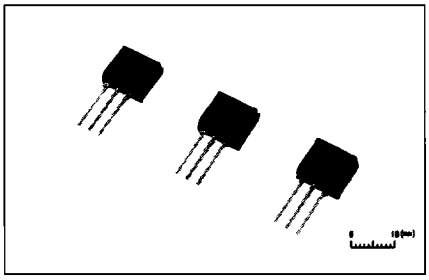
Lead-Type High-Efficiency Diode (HED • Single Unit)



High-speed HEDs (t_{rr}≦60ns→35ns).
Ideal for secondary rectification of switching power supply units where compactness and high efficiency are essential.

1DL41A : V_{RRM}=200V, $I_{F(AV)}$=1A, DO-41S
1DL42A : V_{RRM}=200V, $I_{F(AV)}$=1A, DO-41SS
1R5DL41A : V_{RRM}=200V, $I_{F(AV)}$=1.5A, DO-15L
3DL41A : V_{RRM}=200V, $I_{F(AV)}$=3A, DO-201AD

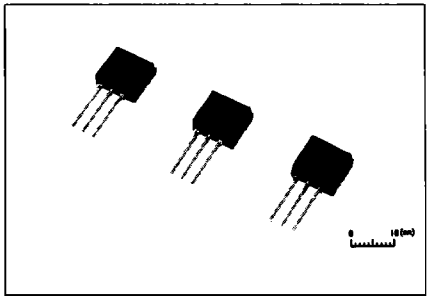
Low-Profile Schottky Barrier Diode (SBD) in a TO-220 Package



Schottky Barrier Diode in a TO-220FL package with a maximum height of only 13.1mm. These devices are used in ultrathin system units such as 1-inch power supplies.

5GWJ2C48C : V_{RRM}=40V, I_O=5A, V_{FM}≦0.55V
10GWJ2C48C : V_{RRM}=40V, I_O=10A, V_{FM}≦0.55V
* **20GWJ2C48C** : V_{RRM}=40V, I_O=20A, V_{FM}≦0.55V
30GWJ2C48C : V_{RRM}=40V, I_O=30A, V_{FM}≦0.55V
* Under development

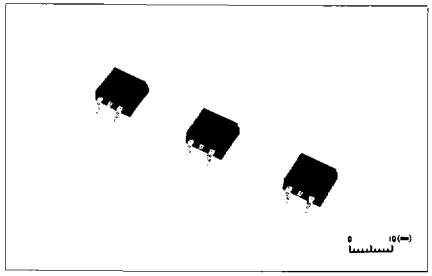
Low-Profile High-Efficiency Diode (HED) in a TO-220 Package



High-speed rectifier in a TO-220FL package with a maximum height of only 13.1 mm. These devices are used in ultrathin system units such as 1-inch power supplies.

5DL2C48A : V_{RRM}=200V, I_O=5A, t_{rr}≦35ns
10DL2C48A : V_{RRM}=200V, I_O=10A, t_{rr}≦35ns
20DL2C48A : V_{RRM}=200V, I_O=20A, t_{rr}≦35ns
5FL2C48A : V_{RRM}=300V, I_O=5A, t_{rr}≦35ns
10FL2C48A : V_{RRM}=300V, I_O=10A, t_{rr}≦35ns
20FL2C48A : V_{RRM}=300V, I_O=20A, t_{rr}≦35ns

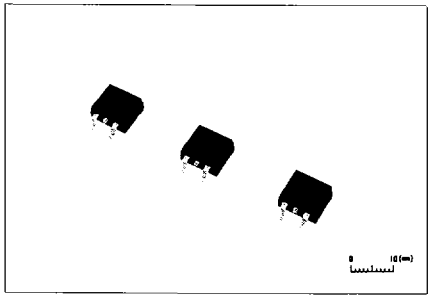
Schottky Barrier Diodes (SBD) for Medium-Capacity Surface-Mounted Devices



Center-tap Schottky Barrier Diodes in TO-220SM packages.
Ideal for use as medium-capacity surface-mounted devices.

U5GWJ2C48C : V_{RRM}=40V, I_O=5A, V_{FM}≦0.55V
U10GWJ2C48C : V_{RRM}=40V, I_O=10A, V_{FM}≦0.55V
***U20GWJ2C48C** : V_{RRM}=40V, I_O=20A, V_{FM}≦0.55V
U30GWJ2C48C : V_{RRM}=40V, I_O=30A, V_{FM}≦0.55V
*Under development

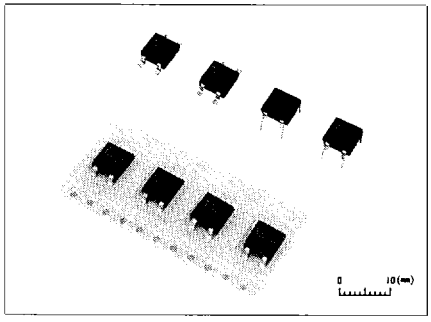
High-Efficiency Diodes (HED) for Medium-Capacity Surface-Mounted Devises



Center-tap high-speed rectifiers in TO-220SM packages.
Ideal for use as medium-capacity surface-mounted devices.

U5DL2C48A : V_{RRM}=200V, I_O=5A, t_{rr}≦35ns
U10DL2C48A : V_{RRM}=200V, I_O=10A, t_{rr}≦35ns
U20DL2C48A : V_{RRM}=200V, I_O=20A, t_{rr}≦35ns
U5FL2C48A : V_{RRM}=300V, I_O=5A, t_{rr}≦35ns
U10FL2C48A : V_{RRM}=300V, I_O=10A, t_{rr}≦35ns
U20FL2C48A : V_{RRM}=300V, I_O=20A, t_{rr}≦35ns

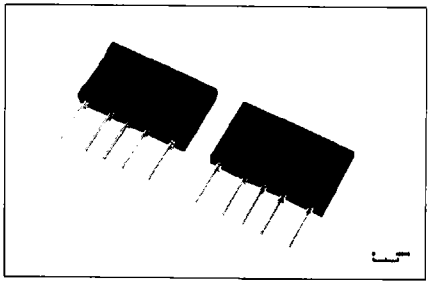
High-Breakdown-Voltage Bridges



High-dreakdown-voltage bridges for rectifying a 440V AC line. Two types of package are available, DIP and surface-mounted H-FLAT-L, which can have embossed-taping specifications.

1Q4B42 : V_{RRM}=1200V, I_O=1A, DIP
U1Q4B42 : V_{RRM}=1200V, I_O=1A, H-FLAT-L

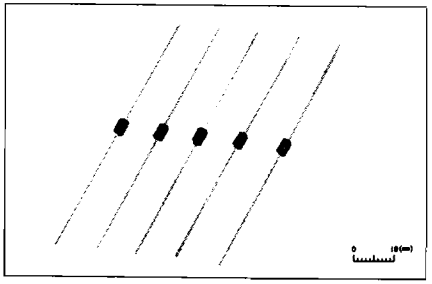
3-Phase Rectifier Bridges in SIP Packages



3-phase rectifier brides in SIP packages. The SIP package is easier to mount on a circuit board than conventional box packages.

20L6P45 : V_{RRM}=800V, I_O=20A
30L6P45 : V_{RRM}=800V, I_O=30A

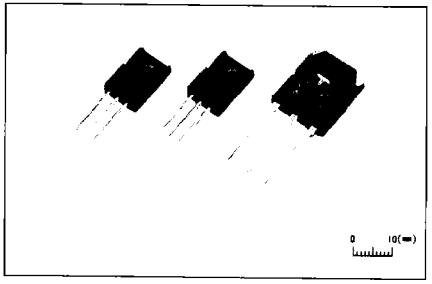
Power Zener Diode (PZD)



1W PZD available in three taping specifications.
(Surge protection level... general purpose use)
5-mm pitch insertion is possible.
Optimum for use in constant-voltage controls, telephones, and printers.

1ZC12~120 : P=1W, V_Z=12~120V

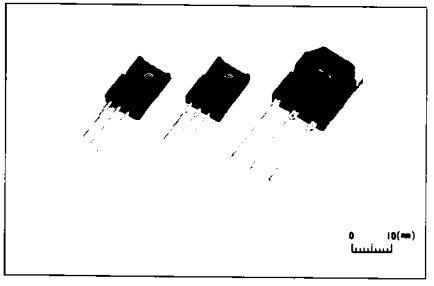
High Breakdown Voltage (400V) High Efficiency Diode (HED · Center tap)



Optimum for secondary rectification of compact, high-efficient switching power supplies.

5GL2CZ47A : V_{RRM}=400V, I_O=5A, t_{rr}≦35ns
TO-220(N)IS
10GL2CZ47A : V_{RRM}=400V, I_O=10A, t_{rr}≦35ns
TO-220(N)IS
20GL2C41A : V_{RRM}=400V, I_O=20A, t_{rr}≦35ns
TO-3P (N)

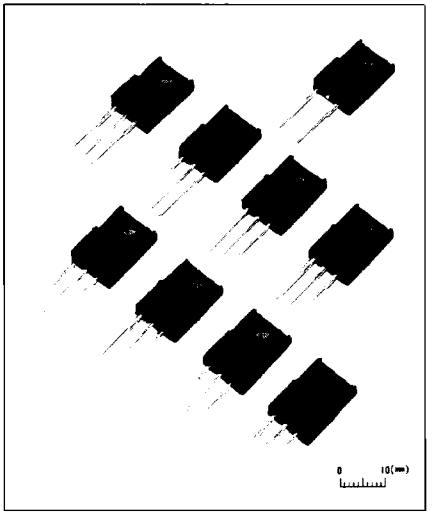
High Breakdown Voltage (600V) High Efficiency Diode (HED · Center tap)



Optimum for primary switch flywheeling of compact, high-efficient switching power supplies.

5JL2CZ47 : V_{RRM}=600V, I_O=5A, t_{rr}≦50ns
TO-220(N)IS
10JL2CZ47 : V_{RRM}=600V, I_O=10A, t_{rr}≦50ns
TO-220(N)IS
20JL2C41 : V_{RRM}=600V, I_O=20A, t_{rr}≦50ns
TO-3P(N)
30JL2C41 : V_{RRM}=600V, I_O=30A, t_{rr}≦50ns
TO-3P(N)

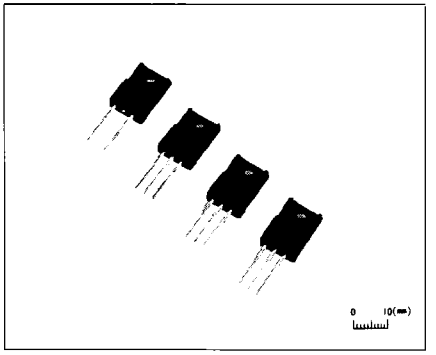
High Efficiency Diode (HED) with New Insulating Package



The height of these HEDs is approximately 2 mm less than that of conventional packages, and there is no conductive exposure on the mold surface. They are built into the TO-220(N)IS, the new insulating package version of the TO-220.

5DLZ47A : V_{RRM}=200V, $I_{F(AV)}$=5A, t_{rr}≦35ns
5DL2CZ47A : V_{RRM}=200V, I_O=5A, t_{rr}≦35ns
10DL2CZ47A : V_{RRM}=200V, I_O=10A, t_{rr}≦35ns
16DL2CZ47A : V_{RRM}=200V, I_O=16A, t_{rr}≦35ns
20DL2CZ47A : V_{RRM}=200V, I_O=20A, t_{rr}≦35ns
5FL2CZ47A : V_{RRM}=300V, I_O=5A, t_{rr}≦35ns
10FL2CZ47A : V_{RRM}=300V, I_O=10A, t_{rr}≦35ns
16FL2CZ47A : V_{RRM}=300V, I_O=16A, t_{rr}≦35ns
20FL2CZ47A : V_{RRM}=300V, I_O=20A, t_{rr}≦35ns

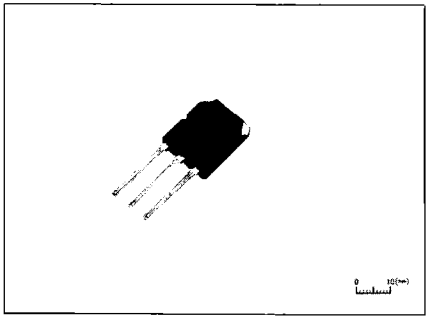
Schottky Barrier Diodes (SBD) in New Insulating Packages



The height of these Schottky barrier diodes is approximately 2 mm less than that of conventional packages, and there is no conductive exposure on the mold surface. They are built into the TO-220(N)IS, the new insulating package version of the TO-220.

5GWJZ47C : V_{RRM}=40V, $I_{F(AV)}$=5A, V_{FM}≦0.55V
5GWJ2CZ47C : V_{RRM}=40V, I_O=5A, V_{FM}≦0.55V
10GWJ2CZ47C : V_{RRM}=40V, I_O=10A, V_{FM}≦0.55V
16GWJ2CZ47C : V_{RRM}=40V, I_O=16A, V_{FM}≦0.55V
* **20GWJ2CZ47C** : V_{RRM}=40V, I_O=20A, V_{FM}≦0.55V
* Under development

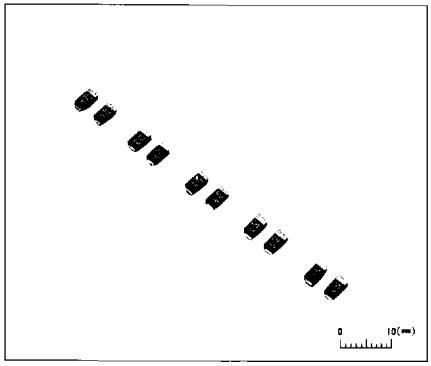
Schottky Barrier Diode (SBD) in TO-3P(N) Package



This is "C" series Schottky barrier diode, built into the TO-3P(N) package.

30GWJ2C42C : V_{RRM}=40V, I_O=30A, V_{FM}≦0.55V

Compact Surface-Mount Type Ultrahigh-Speed Rectifiers (I-FLAT)



Toshiba has succeeded in producing compact SMD single-unit rectifiers. Since the package looks like the letter "I", Toshiba calls these products "I-FLAT"

U1GU44 : V_{RRM}=400V, $I_{F(AV)}$=1A, t_{rr}≦0.1μs ···S-FRD

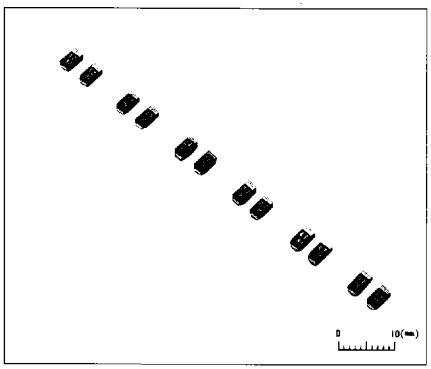
U1JU44 : V_{RRM}=600V, $I_{F(AV)}$=1A, t_{rr}≦0.1μs ···S-FRD

U05NU44 : V_{RRM}=1000V, $I_{F(AV)}$=0.5A, t_{rr}≦0.1μs ···S-FRD

U1DL44A : V_{RRM}=200V, $I_{F(AV)}$=1A, t_{rr}≦35ns ···HED

U1GWJ44 : V_{RRM}=40V, $I_{F(AV)}$=1A, V_{FM}≦0.55V ···SBD

Compact Surface-Mount Type Power Zener Diodes (I-FLAT)



Toshiba has succeeded in producing compact SMD single-unit rectifiers. Since the package looks like the letter "I", Toshiba calls these products "I-FLAT"

U1ZB12 : 10.8V≦V_Z≦13.2V 1W

U1ZB13 : 11.7V≦V_Z≦14.3V 1W

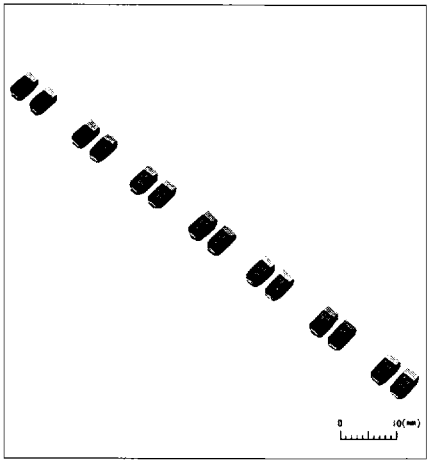
U1ZB24 : 21.6V≦V_Z≦26.4V 1W

U1ZB27 : 24.3V≦V_Z≦29.7V 1W

U1ZB47 : 42.3V≦V_Z≦51.7V 1W

U1ZB51 : 45.9V≦V_Z≦56.1V 1W

Compact, Surface-Mount Type Rectifier (I-FLAT)



Toshiba has succeeded in producing compact SMD single-unit rectifiers. Since the package looks like the letter "I", Toshiba calls these products "I-FLAT".

U1BC44 : V_{RRM}=100V, I_O=1A ···General-purpose rectifiers

U1GC44 : V_{RRM}=400V, I_O=1A ···General-purpose rectifiers

U1JC44 : V_{RRM}=600V, I_O=1A ···General-purpose rectifiers

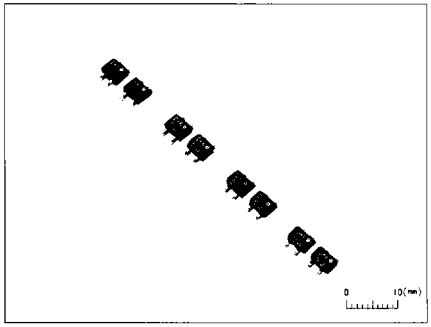
U05GH44 : V_{RRM}=400V, I_O=0.5A, t_{rr}≦1.5μs ···FRD

U05JH44 : V_{RRM}=600V, I_O=0.5A, t_{rr}≦1.5μs ···FRD

U05NH44 : V_{RRM}=1000V, I_O=0.5A, t_{rr}≦4μs ···FRD

U05TH44 : V_{RRM}=1500V, I_O=0.5A, t_{rr}≦4μs ···FRD

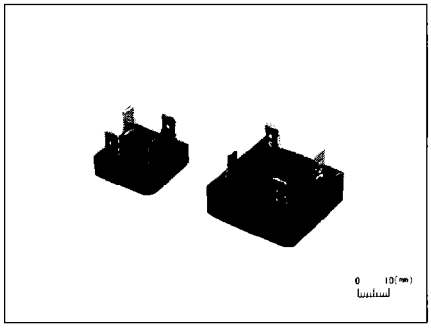
Compact Surface-Mount Type Bridge Rectifiers (H-FLAT)



The space needed on the circuit board is only 1/3 that required by a conventional DIP bridge.
Since the package has the shape of the letter "H", Toshiba calls these products "H-FLAT".

U05B4B48 : V_{RRM}=100V, I_O=0.5A
U05G4B48 : V_{RRM}=400V, I_O=0.5A
U05J4B48 : V_{RRM}=600V, I_O=0.5A

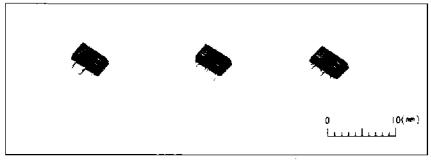
Medium-Capacity Bridges with Equivalent to Faston Terminals



Use of Equivalent to Faston #250 for the terminal shape allows easy wiring on the receptacles.

15G4B42 : V_{RRM}=400V, I_O=15A
15J4B42 : V_{RRM}=600V, I_O=15A
25G4B42 : V_{RRM}=400V, I_O=25A
25J4B42 : V_{RRM}=600V, I_O=25A

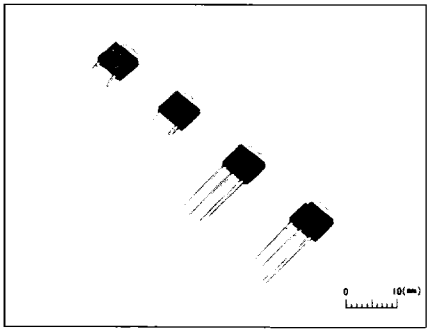
Schottky Barrier Diodes (SBD) in Power-Mini (SOT89) Packages.



Optimum for surface-mount components used in small-size power supplies.

U1GWJ2C49 : V_{RRM}=40V, I_O=1A, V_{FM}≦0.55V
U1GWJ49 : V_{RRM}=40V, $I_{F(AV)}$=1A, V_{FM}≦0.55V

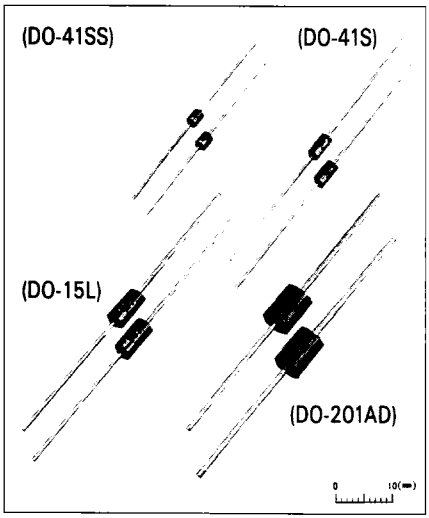
Schottky Barrier Diodes (SBD) with Power-Mold Packages.



Center tap type SBDs. Optimum for surface-mount components used in small-size power supplies.

U2GWJ2C42 : V_{RRM}=40V, I_O=2A, V_{FM}≦0.55V, SMD type
U3GWJ2C42 : V_{RRM}=40V, I_O=3A, V_{FM}≦0.55V, SMD type
2GWJ2C42 : V_{RRM}=40V, I_O=2A, V_{FM}≦0.55V
3GWJ2C42 : V_{RRM}=40V, I_O=3A, V_{FM}≦0.55V

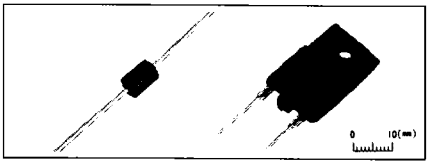
V_{FM}≦1.1~1.5V; Rectifiers (V-FRD)



V_{FM}≦1.1~1.5V, t_{rr}≦200ns. Optimum for secondary rectification of switching power supplies for TVs and monitors or secondary rectification of flyback transformers.

05NH46 : V_{RRM}=1000V, V_{FM}≦1.5V, t_{rr}≦200ns DO-41SS
1GH46 : V_{RRM}=400V, V_{FM}≦1.1V, t_{rr}≦200ns DO-41SS
1JH46 : V_{RRM}=600V, V_{FM}≦1.2V, t_{rr}≦200ns DO-41SS
05NH45 : V_{RRM}=1000V, V_{FM}≦1.5V, t_{rr}≦200ns DO-41S
1GH45 : V_{RRM}=400V, V_{FM}≦1.1V, t_{rr}≦200ns DO-41S
1JH45 : V_{RRM}=600V, V_{FM}≦1.2V, t_{rr}≦200ns DO-41S
1R5GH45 : V_{RRM}=400V, V_{FM}≦1.1V, t_{rr}≦200ns DO-15L
1R5JH45 : V_{RRM}=600V, V_{FM}≦1.2V, t_{rr}≦200ns DO-15L
1R5NH45 : V_{RRM}=1000V, V_{FM}≦1.5V, t_{rr}≦200ns DO-15L
2NH45 : V_{RRM}=1000V, V_{FM}≦1.5V, t_{rr}≦200ns DO-201AD
3GH45 : V_{RRM}=400V, V_{FM}≦1.1V, t_{rr}≦200ns DO-201AD
3JH45 : V_{RRM}=600V, V_{FM}≦1.2V, t_{rr}≦200ns DO-201AD

Damper diode-V_{RRM}=1500V/1700V



High breakdown voltage V_{RRM}=1500V/1700V; optimum for horizontal deflection circuits used in TVs and monitors.

3TH41 : V_{RRM}=1500V, t_{rr}≦1.5μs DO-201AD
5THZ47 : V_{RRM}=1500V, t_{rr}≦1.5μs TO-220(N)IS
***5TUZ47** : V_{RRM}=1500V, t_{rr}≦0.6μs TO-220(N)IS
5THZ52 : V_{RRM}=1500V, t_{rr}≦1.5μs TO-3P(H)IS
***5TUZ52** : V_{RRM}=1500V, t_{rr}≦0.6μs TO-3P(H)IS
5VHZ52 : V_{RRM}=1700V, t_{rr}≦1.5μs TO-3P(H)IS

* Under development