

TOSHIBA Fast Recovery Diode Silicon Diffused Type

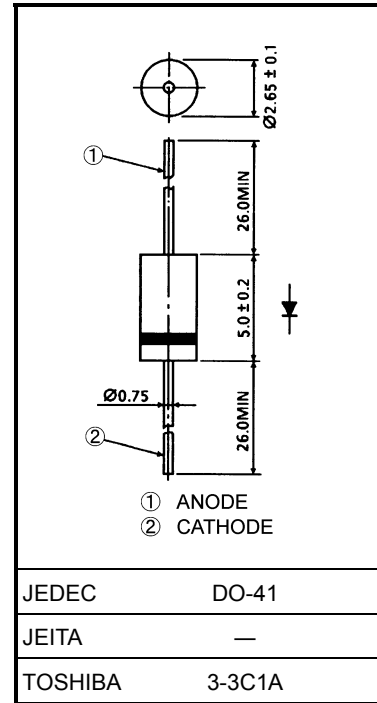
## TVR2B, TVR2G, TVR2J

### TV Applications (fast recovery)

- Average Forward Current:  $I_F (AV) = 0.5 \text{ A}$  ( $T_a = 50^\circ\text{C}$ )
- Repetitive Peak Reverse Voltage:  $V_{RRM} = 100 \text{ to } 600 \text{ V}$
- Reverse Recovery Time:  $t_{rr} = 5 \text{ to } 20 \mu\text{s}$
- Plastic Mold Type.

### Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Characteristics		Symbol	Rating	Unit
Repetitive peak reverse voltage	TVR2B	$V_{RRM}$	100	V
	TVR2G		400	
	TVR2J		600	
Reverse voltage (DC)	TVR2B	$V_R$	50	V
	TVR2G		300	
	TVR2J		500	
Average forward current ( $T_a = 50^\circ\text{C}$ )		$I_F (AV)$	0.5	A
Peak one cycle surge forward current (non repetitive)	$I_{FSM}$		30 (50 Hz)	A
			33 (60 Hz)	
Junction temperature		$T_j$	-40 to 125	$^\circ\text{C}$
Storage temperature range		$T_{stg}$	-40 to 125	$^\circ\text{C}$



Weight: 0.3 g (typ.)

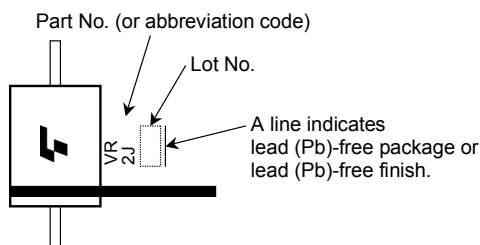
### Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Peak forward voltage	$V_{FM}$	$I_{FM} = 1.0 \text{ A}$	—	—	1.4	V
Repetitive peak reverse current	$I_{RRM}$	$V_{RRM} = \text{Rated}$	—	—	10	$\mu\text{A}$
Reverse recovery time	$t_{rr}$	$I_F = 20 \text{ mA}, I_R = 1 \text{ mA}$	5	—	20	$\mu\text{s}$
Forward recovery voltage	$V_{fr}$	$I_F = 0.1 \text{ A}, t_r = 100 \text{ ns}, t_w = 5 \mu\text{s}$	—	—	6	V

Note1: Soldering: 5 mm is the minimum to be kept between case and soldering part.

Note2: Lead bending: 5 mm is the minimum to be kept from the case when bend the lead wire.

### Marking



Abbreviation Code	Part No.
VR2B	TVR2B
VR2G	TVR2G
VR2J	TVR2J

**Handling Precaution**

The maximum ratings denote the absolute maximum ratings, which are rated values and must not be exceeded during operation, even for an instant. The following are the general derating methods that we recommend when you design a circuit with a device.

**VRRM:** We recommend that the worst case voltage, including surge voltage, be no greater than 80% of the maximum rating of VRRM for a DC circuit and be no greater than 50% of that of VRRM for an AC circuit. VRRM has a temperature coefficient of 0.1%/°C. Take this temperature coefficient into account designing a device at low temperature.

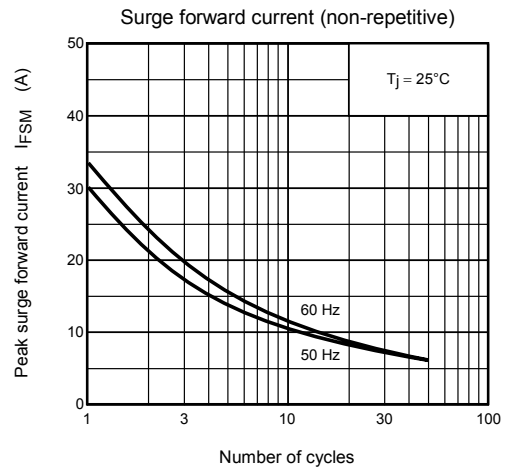
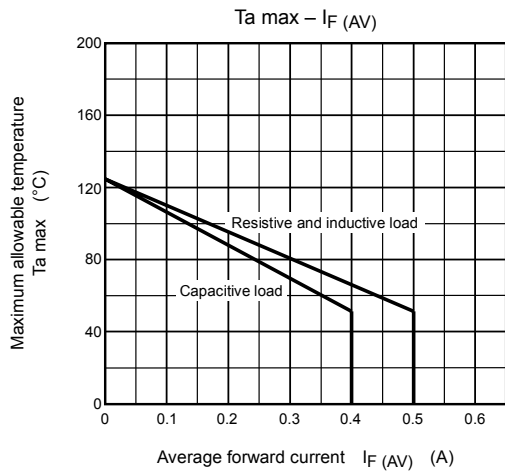
**IF(AV):** We recommend that the worst case current be no greater than 80% of the maximum rating of IF(AV). Carry out adequate heat design. If you can't design a circuit with excellent heat radiation, set the margin by using an allowable Tamax-IF(AV) curve.

This rating specifies the non-repetitive peak current in one cycle of a 50-Hz sine wave, condition angle 180. Therefore, this is only applied for an abnormal operation, which seldom occurs during the lifespan of the device.

We recommend that a device be used at a Tj of below 100°C under the worst load and heat radiation conditions.

Thermal resistance between junction and ambient fluctuates depending on the device's mounting condition. When using a device, design a circuit board and a soldering land size to match the appropriate thermal resistance value.

Please refer to the Rectifiers databook for further information.



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