

**TOSHIBA**

20DL2C41A, 20FL2C41A, 20GL2C41A

TOSHIBA HIGH EFFICIENCY DIODE STACK (HED) SILICON EPITAXIAL TYPE

**20DL2C41A, 20FL2C41A, 20GL2C41A**

SWITCHING TYPE POWER SUPPLY APPLICATION

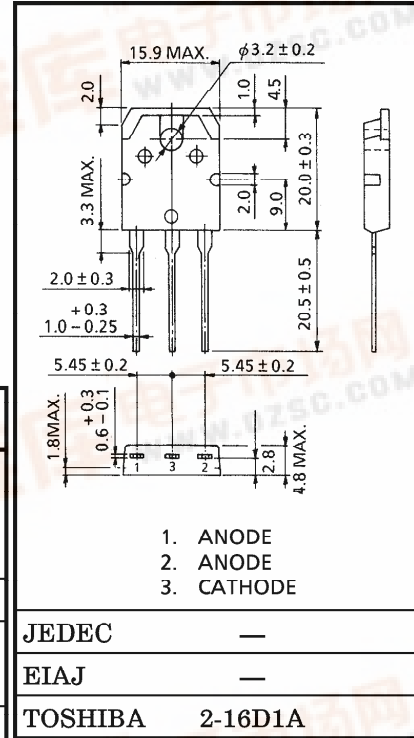
CONVERTER & CHOPPER APPLICATION

- Repetitive Peak Reverse Voltage :  $V_{RRM}=200, 300, 400V$
- Average Output Rectified Current :  $I_O=20A$
- Ultra Fast Reverse-Recovery Time :  $t_{rr}=35ns (Max.)$
- Low Switching Losses and Output Noise

MAXIMUM RATINGS

CHARACTERISTIC		SYMBOL	RATING	UNIT
Repetitive Peak Reverse Voltage	20DL2C41A	$V_{RRM}$	200	V
	20FL2C41A		300	
	20GL2C41A		400	
Average Output Rectified Current		$I_O$	20	A
Peak One Cycle Surge Forward Current (Non Repetitive)		$I_{FSM}$	100 (50Hz)	A
			110 (60Hz)	
Junction Temperature		$T_j$	-40~150	°C
Storage Temperature Range		$T_{stg}$	-40~150	°C
Screw Torque		—	0.8	N·m

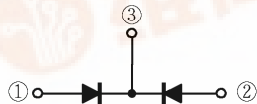
Unit in mm



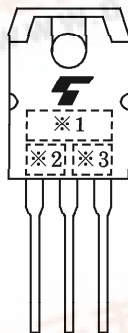
JEDEC	—
EIAJ	—
TOSHIBA	2-16D1A

Weight : 4.85g

POLARITY



MARKING



*1	MARK	20DL2C	TYPE	20DL2C41A
		20FL2C		20FL2C41A
		20GL2C		20GL2C41A
*2	A			
*3	Lot number			
	<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 15px; height: 15px; margin-right: 5px;"></div> <div style="border: 1px solid black; width: 15px; height: 15px; margin-right: 5px;"></div> <div style="margin-left: 5px;">Month (Starting from Alphabet A)</div> </div> <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 15px; height: 15px; margin-right: 5px;"></div> <div style="margin-left: 5px;">Year (Last Number of the Christian Era)</div> </div>			

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TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.

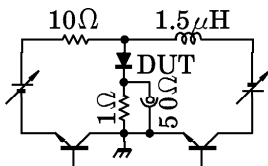


ELECTRICAL CHARACTERISTICS (Ta = 25°C)

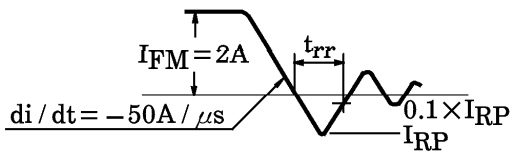
CHARACTERISTIC		SYMBOL	TEST CONDITION	TYP.	MAX.	UNIT
Peak Forward Voltage (Note 1)	20DL2C41A	V <sub>FM</sub>	I <sub>FM</sub> = 10A	—	0.98	V
	20FL2C41A			—	1.3	
	20GL2C41A			—	1.8	
Repetitive Peak Reverse Current (Note 1)		I <sub>RRM</sub>	V <sub>RRM</sub> = Rated	—	50	μA
Reverse Recovery time (Note 1)		t <sub>rr</sub>	I <sub>F</sub> = 2.0A, di / dt = -50A / μs	—	35	ns
Forward Recovery time (Note 1)		t <sub>fr</sub>	I <sub>F</sub> = 1A	—	100	ns
Thermal Resistance		R <sub>th(j-c)</sub>	DC Total, Junction to Case	—	1.5	°C / W

Note 1 : A value of one cell.

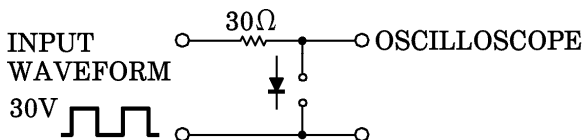
Note 2 : t<sub>rr</sub> TEST CIRCUIT



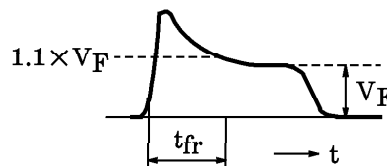
t<sub>rr</sub> WAVEFORM



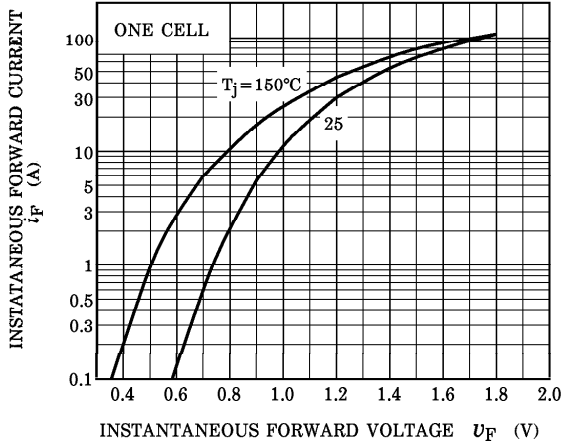
Note 3 : t<sub>fr</sub> TEST CIRCUIT



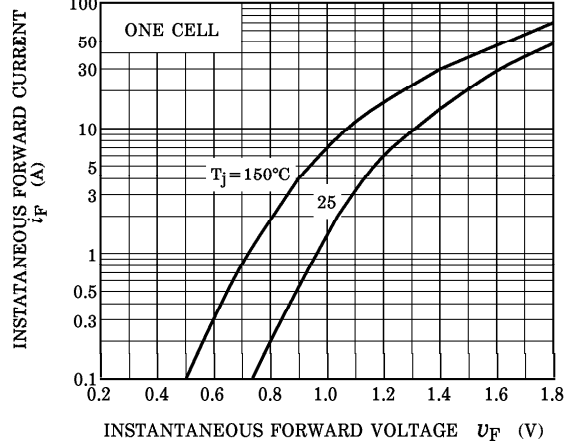
t<sub>fr</sub> WAVEFORM



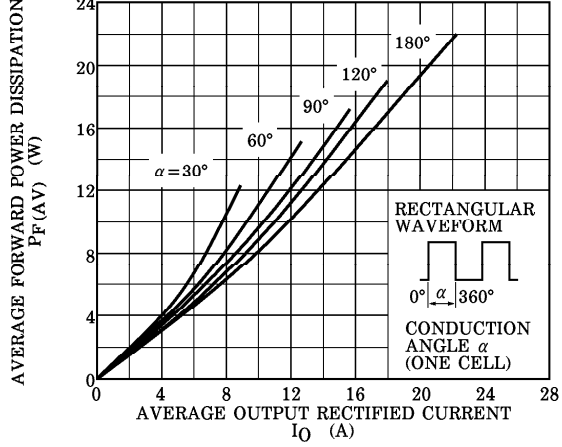
$i_F - v_F$  (20DL2C41A)



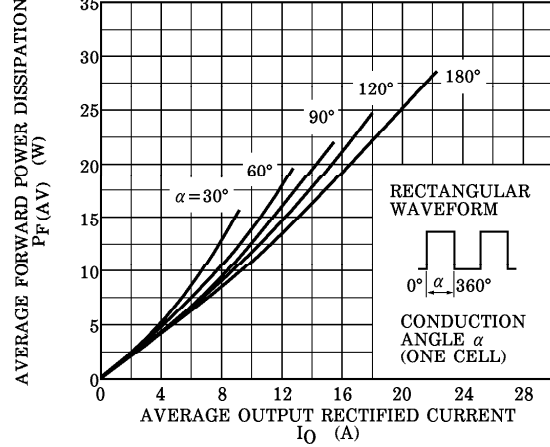
$i_F - v_F$  (20FL2C41A)



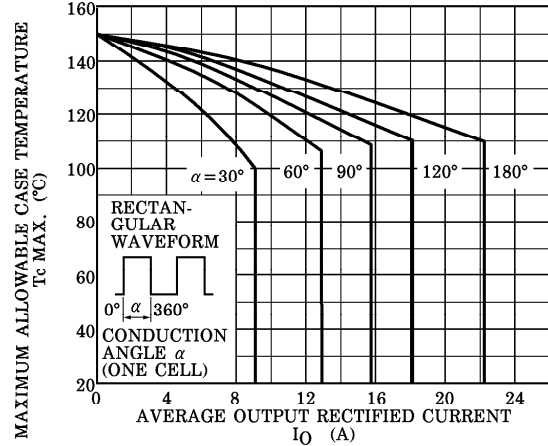
$P_F(AV) - I_O$  (20DL2C41A)



$P_F(AV) - I_O$  (20FL2C41A)



$T_c \text{ MAX.} - I_O$  (20DL2C41A)



$T_c \text{ MAX.} - I_O$  (20FL2C41A)

