TOSHIBA High Efficiency Rectifier (HED) Silicon Epitaxial Junction Type

1DL42A

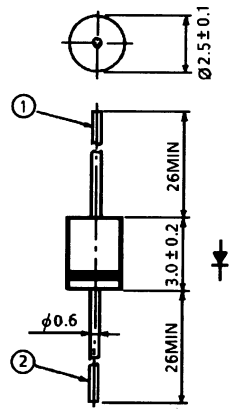
Switching Mode Power Supply Applications

- Repetitive Peak Reverse Voltage: V_{RRM} = 200 V
- Average Forward Current: $I_{F\ (AV)}$ = 1.0 A
- Very Fast Reverse-Recovery Time: t_{rr} = 35 ns (max)
- Low Forward Voltage: V_{FM} = 0.98 V (max)
- Available to Reduce Switching Losses and Output Noise.

Maximum Ratings

Characteristics	Symbol	Rating	Unit
Repetitive peak reverse voltage	V_{RRM}	200	V
Average forward current	$I_{F\ (AV)}$	1.0	A
Peak one cycle surge forward current (non-repetitive)	I_{FSM}	30 (50 Hz)	A
		33 (60 Hz)	
Junction temperature	T_j	−40 to 150	°C
Storage temperature range	T_{stg}	−40 to 150	°C

Unit: mm



1. ANODE
2. CATHODE

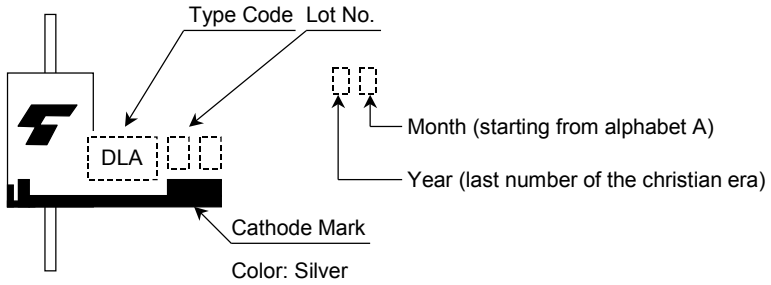
JEDEC	—
JEITA	—
TOSHIBA	3-3F2A

Weight: 0.18 g (typ.)

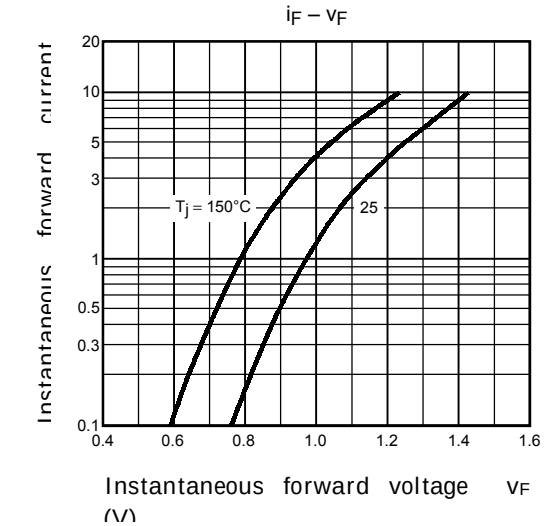
Electrical Characteristics (Ta = 25°C)

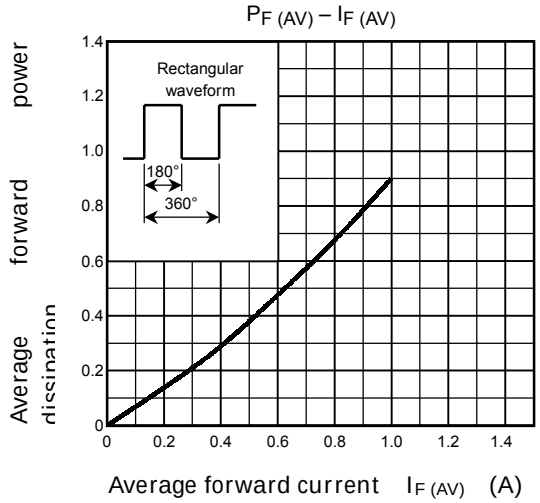
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Peak forward voltage	V_{FM}	I_{FM} = 1.0 A	—	—	0.98	V
Repetitive peak reverse current	I_{RRM}	V_{RRM} = 200 V	—	—	100	μA
Reverse recovery time	t_{rr}	I_F = 1 A, di/dt = –30 A/μs	—	—	35	ns
Forward recovery time	t_{fr}	I_F = 1.0 A	—	—	100	ns

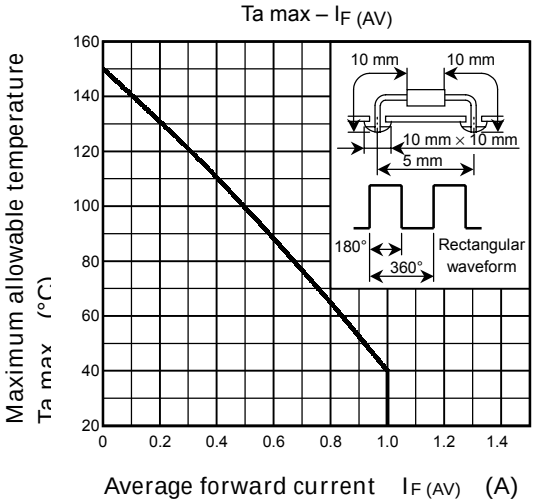
Marking

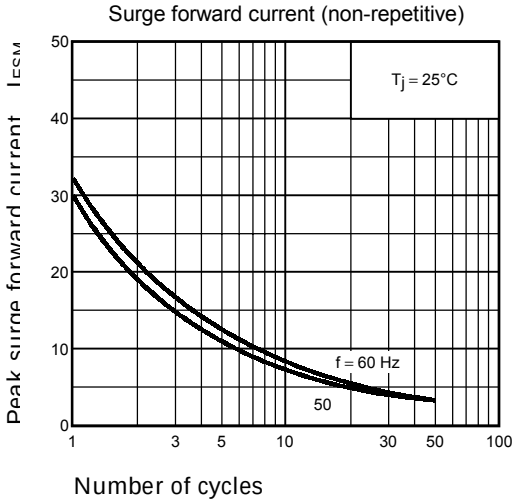


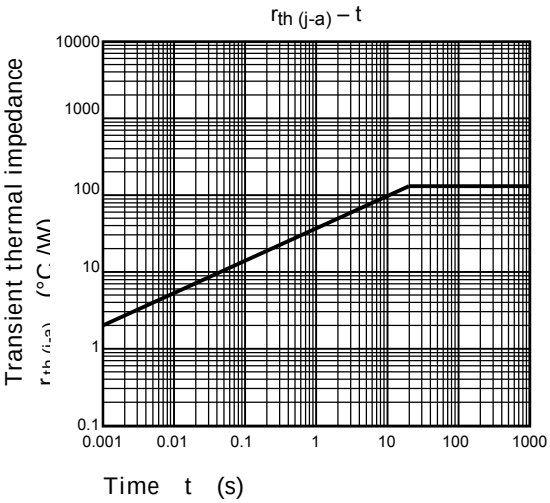
Code	Type
DLA	1DL42A


iF – vF
Instantaneous forward current
Tj = 150°C
25
Instantaneous forward voltage vF (V)


PF (AV) – IF (AV)
Average forward power dissipation
Rectangular waveform
180°
360°
Average forward current IF (AV) (A)


Ta max – IF (AV)
Maximum allowable temperature Ta max (°C)
10 mm
10 mm
10 mm × 10 mm
5 mm
180°
360°
Rectangular waveform
Average forward current IF (AV) (A)


Surge forward current (non-repetitive)
Peak surge forward current IFSM
Tj = 25°C
f = 60 Hz
50
Number of cycles


rth (j-a) – t
Transient thermal impedance rth (j-a) (°C/W)
Time t (s)

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