Ultrafast Recovery Rectifier DUR1040CT, 2x 5A, 400V, TO-220AB, Common Cathode



RoHS

e3)

DUR1040CT





Description

Littelfuse DUR series Ultrafast Recovery Rectifier is designed to meet the general requirements of commercial applications by providing low Trr, high-temperature, lowleakage and low forward voltage drop products. It is suitable for output rectifier, free-wheeling or boost diode in high-frequency power switching application such as switch mode power supply and DC-DC converters.

Features

- Ultra-fast switching
- Low reverse leakage current

• High surge current

- configuration in TO-220AB package
- Pb-free E3 means 2nd level interconnect is Pbfree and the terminal finish material is tin(Sn) (IPC/ JEDEC J-STD-609A.01)
- Common Cathode

• Low forward voltage drop

Applications

capability

- · Output rectifiers in switch mode power supplies (SMPS) and DC to DC converters
- Free-wheeling diode or boost diode in converters and motor control circuits
- Anti-parallel diode for high frequency switching devices such as IGBT
- Uninterruptible Power Supplies (UPS)
- Inductive heating and melting
- Ultrasonic cleaners and welders

	Maximum Ratings	mum Ratings			
	Characteristics	Symbol	Conditions	Max.	Unit
	Peak Inverse Voltage	V _{rwm}	-	400	V
	Average Forward Current		50% duty cycle @T _c =112 °C,	5 (Per Leg)	Δ
Ave		F(AV)	rectangular wave form	10 (Total Device)	A
	Peak One Cycle Non- Repetitive Surge Current (Per Leg)	I _{FSM}	8.3 ms, half sine pulse	80	A

Electrical Characteristics

Characteristics	Symbol	Conditions	Max.	Unit
Forward Voltage Drop (Per Leg) ¹	V _F	@5A, Pulse, T _J = 25 °C	1.3	V
Reverse Current ¹	I _{R1}	$@V_{_{ m R}} = \text{Rated } V_{_{ m R}}$, $T_{_{ m J}} = 25 ^{\circ}\text{C}$	30	
neverse current	I _{R2}	$@V_{_{R}} = Rated V_{_{R}}, T_{_{J}} = 125 \text{ °C}$	300	μΑ
Reverse Recovery Time	t _{rr1}	$I_{\rm F}$ =500mA, $I_{\rm R}$ =1A,and $I_{\rm m}$ =250mA	45	ns

Footnote ¹: Pulse Width < 300 μ s, Duty Cycle <2%

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Circuit Diagram



Thermal-Mechanical Specifications

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Characteristics	Symbol	Conditions	Specification	Unit
Junction Temperature	T	-	-55 to +150	°C
Storage Temperature	T _{stg}	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case	R _{ejc}	DC operation	3.5	°C/W
Approximate Weight	wt	-	2	g
Case Style	-	TO-220AB	-	-

Figure 1: Typical Forward Characteristics



Figure 3: Typical Junction Capacitance



Figure 2: Typical Reverse Characteristics



Part Numbering and Marking System



*xxxxx is YYWWL

10

40

СТ

LF

YΥ

L

WW

- DUR = Device Type = Forward Current (10A)
 - = Reverse Voltage (400V) = Configuration
 - = Littelfuse
 - = Year
 - = Week
 - = Lot Number

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Packing Options			
Part Number	Marking	Packing Mode	M.O.Q
DUR1040CT	DUR1040CT	50pcs / Tube	1000

Dimensions-Package TO-220AB





Symbol	Millimeters		
Symbol	Min	Max	
А	3.56	4.83	
A1	0.51	1.40	
A2	2.03	2.92	
b	0.38	1.02	
b1	1.14	1.78	
С	0.31*	0.61	
D	14.22	16.51	
D1	8.38	9.15*	
E	9.65	10.67	
е	2.54	-	
e1	4.98*	-	
H1	5.84	6.86	
L	12.70	14.73	
L1	-	6.35	
ØP	3.53	4.09	
Q	2.54	3.43	

Footnote *: The spec. does not comply with JEDEC spec.

Tube Specification TO-220AB

