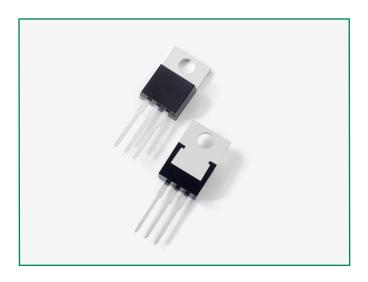


DUR1040CT









Description

Littelfuse DUR series Ultrafast Recovery Rectifier is designed to meet the general requirements of commercial applications by providing low Trr, high-temperature, low-leakage 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.

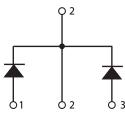
Features

- Ultra-fast switching
- Low reverse leakage current
- High surge current capability
- Low forward voltage drop
- Common Cathode

- 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)

Circuit Diagram





Applications

- 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

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

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}	$@V_{R} = Rated V_{R}, T_{J} = 25 °C$	30	μΑ
	I _{R2}	$@V_R = Rated V_R, T_J = 125 °C$	300	
Reverse Recovery Time	t _{m1}	$I_F = 500 \text{mA}$, $I_R = 1 \text{A}$, and $I_m = 250 \text{mA}$	45	ns

Footnote 1 : Pulse Width $< 300 \mu s$, Duty Cycle < 2%

Thermal-Mechanical Specifications

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

Figure 1: Typical Forward Characteristics

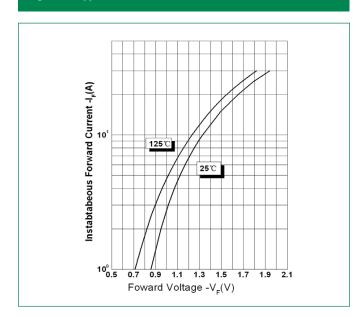


Figure 3: Typical Junction Capacitance

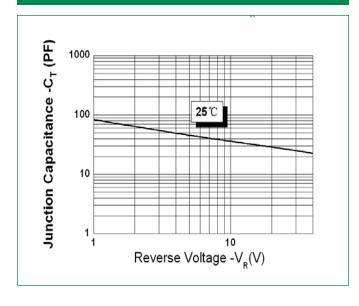
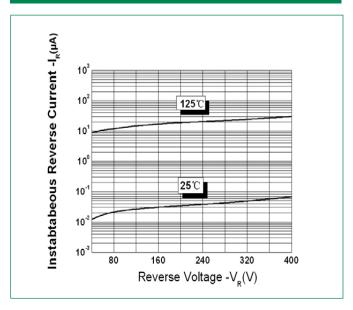
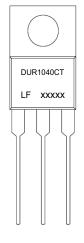


Figure 2: Typical Reverse Characteristics



Part Numbering and Marking System

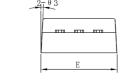


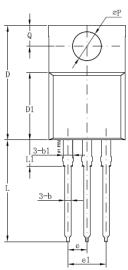
*xxxxx	is YYWWL
DUR 10 40 CT LF YY WW L	= Device Type = Forward Current (10A) = Reverse Voltage (400V) = Configuration = Littelfuse = Year = Week = Lot Number

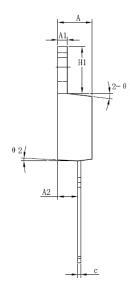


Packing Options			
Part Number	Marking	Packing Mode	M.O.Q
DUR1040CT	DUR1040CT	50pcs / Tube	1000

Dimensions-Package TO-220AB







Symbol	Millimeters		
Oymbor	Min	Max	
Α	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	
ØР	3.53	4.09	
Q	2.54	3.43	

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

Tube Specification TO-220AB

