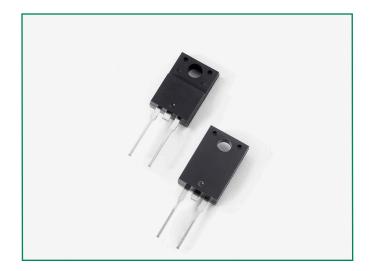
Littelfuse Expertise Applied | Answers Delivered

DURF840









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.

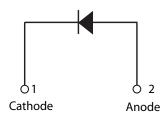
Features

- Ultra-fast switching
- Low reverse leakage current
- High surge current capability
- Low forward voltage drop
- Single die in two-leaded,

electrically isolated ITO-220AC package

 Pb-free E3 means 2nd level interconnect is Pb-free 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	$V_{_{\mathrm{RWM}}}$	-	400	V
Average Forward Current	I _{F(AV)}	50% duty cycle @T _c =55 °C, rectangular wave form	8	А
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 ¹	V _{F1}	@8A, Pulse, T _J = 25 °C	1.3	V
	V_{F2}	@8A, Pulse, T _J = 125 °C	1.2	V
Reverse Current ¹	I _{R1}	$@V_R = Rated V_R, T_J = 25 °C$	10	μΑ
	I _{R2}	$@V_R = Rated V_R, T_J = 125 °C$	500	μΑ
Reverse Recovery Time	t _{m1}	I_F =500mA, I_R =1A,and I_m =250mA	45	ns

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



Thermal-Mechanical Specifications

Characteristics	Symbol	Conditions	Specification	Unit
Junction Temperature	T	-	-55 to +150	°C
Storage Temperature	T _{stq}	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case	R _{euc}	DC operation	5.0	°C/W
Approximate Weight	wt	-	1.6	g
Case Style		ITO-220AC	-	-

Figure 1: Typical Forward Characteristics

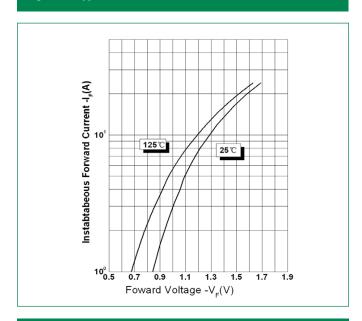


Figure 3: Typical Junction Capacitance

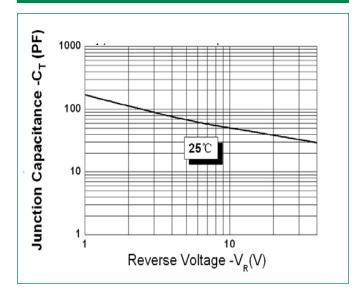
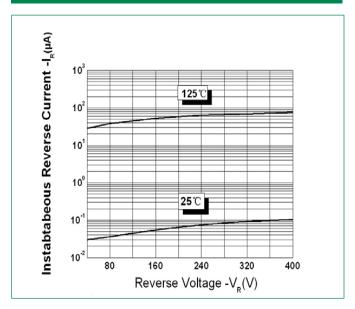
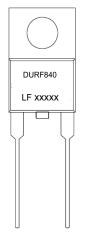


Figure 2: Typical Reverse Characteristics



Part Numbering and Marking System

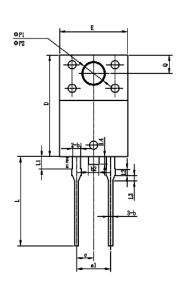


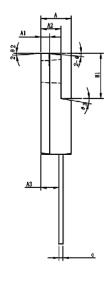
*xxxxx is YYWWL DUR = Device Type = Package type = Forward Current (8A) 8 40 = Reverse Voltage (400V) LF = Littelfuse = Year WW = Week = Lot Number



Packing Options					
Part Number	Marking	Packing Mode	M.O.Q		
DURF840	DURF840	50pcs / Tube	1000		

Dimensions-Package ITO-220AC

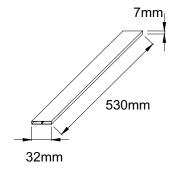






Symbol	Millimeters			
	Min	Тур	Max	
А	4.30	4.50	4.70	
A1	1.10	1.30	1.50	
A2	2.80	3.00	3.20	
A3	2.50	2.70	2.90	
b	0.50	0.60	0.75	
b1	1.10	1.20	1.35	
b2	1.50	1.60	1.75	
С	0.55	0.60	0.75	
D	14.80	15.00	15.20	
E	9.96	10.16	10.36	
е	-	2.55	-	
e1	-	5.10	-	
H1	6.50	6.70	6.90	
L	12.70	13.20	13.70	
L1	1.60	1.80	2.00	
L2	0.80	1.00	1.20	
L3	0.60	0.80	1.00	
L4	-	1.10	1.50	
øP1	3.30	3.50	3.70	
øP2	2.99	3.19	3.39	
Q	2.50	2.70	2.90	
θ1	-	5°	-	
θ2	-	4°	-	
θ3	-	10°	-	
θ4	-	5°	-	
θ5	-	5°	-	

Tube Specification ITO-220AC



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