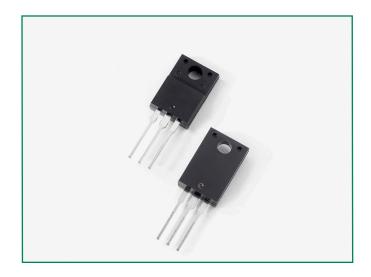


DURF3060CT









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

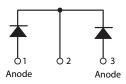
- Ultra-fast switching
- Low reverse leakage current
- High surge current capability
- Low forward voltage drop
- Common Cathode

configuration in electrically isolated ITO-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}	-	600	V
Average Rectified Forward Current	I _{F(AV)}	Rated Vr@T _c =105°C, rectangular wave form	15 (Per Leg)	А
Average Nectified Forward Current			30 (Total Device)	
Peak One Cycle Non- Repetitive Surge Current (Per Leg)	I _{FSM}	8.3 ms, half sine pulse	110	А

Electrical Characteristics

Characteristics	Symbol	Conditions	Тур.	Max.	Unit
Forward Voltage Drop (Per Leg) ¹	V _{F1}	@15A, Pulse, T _J = 25 °C	1.71	2.03	V
	V _{F2}	@15A, Pulse, T _J = 125 °C	1.59	-	V
Reverse Current (Per Leg) ¹	I _{R1}	$@V_{_{\rm R}} = \text{Rated V}_{_{\rm R}}, T_{_{\rm J}} = 25 ^{\circ}\text{C}$	0.54	100	μΑ
	I _{R2}	$@V_R = Rated V_R, T_J = 125 °C$	277	1500	μΑ
Reverse Recovery Time	t _{m1}	$I_F = 500 \text{mA}, I_R = 1 \text{A}, \text{and } I_m = 250 \text{mA}$	-	50	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 _{sta}	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case	R _{euc}	DC operation	1.6	°C/W
Approximate Weight	wt	-	2.0	g
Case Style	_	ITO-220AB	-	-

Figure 1: Typical Forward Characteristics

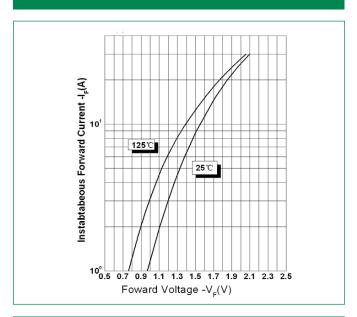


Figure 3: Typical Junction Capacitance

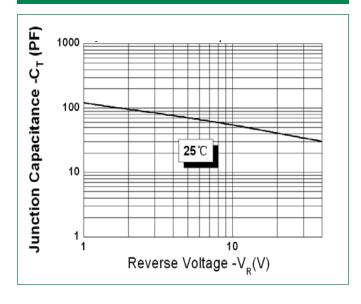
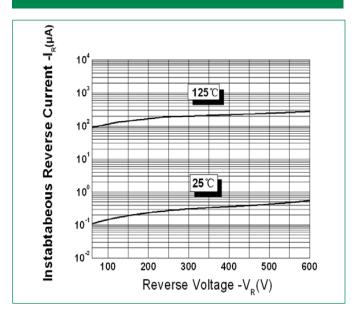
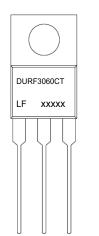


Figure 2: Typical Reverse Characteristics



Part Numbering and Marking System

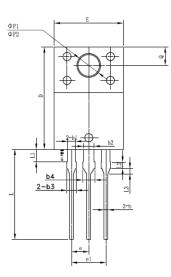


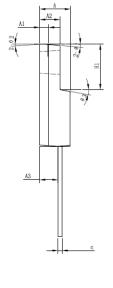
*xxxxx	is YYWWL
DUR F 30 60 CT LF YY WW L	= Device Type = Package type = Forward Current (30A) = Reverse Voltage (600V) = Configuration = Littelfuse = Year = Week = Lot Number



Packing Options				
Part Number	Marking	Packing Mode	M.O.Q	
DURF3060CT	DURF3060CT	50pcs / Tube	1000	

Dimensions-Package ITO-220AB

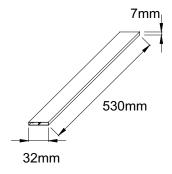






Min Typ Max A 4.30 4.50 4.70 A1 1.10 1.30 1.50 A2 2.80 3.00 3.20 A3 2.50 2.70 2.90 b 0.50 0.60 0.75 b1 1.10 1.20 1.35 b2 1.50 1.60 1.75 b3 1.20 1.30 1.45 b4 1.60 1.70 1.85 c 0.55 0.60 0.75 D 14.80 15.00 15.20 E 9.96 10.16 10.36 e 2.55 e1 10.36 e 2.55 e1 5.10 H1 6.50 6.70 6.90 L 12.70 13.20 13.70 L1 1.60 1.80 2.00 L2 0.80 1.00 1.20 L3 0.60 0.80	Symbol	Millimeters				
A 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 b3 1.20 1.30 1.45 b4 1.60 1.70 1.85 c 0.55 0.60 0.75 D 14.80 15.00 15.20 E 9.96 10.16 10.36 e 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 ØP1 3.30 3.50 3.70 ØP2 2.99 3.19 3.39 Q 2.50 2.70 2.90 <th>Symbol</th> <th>Min</th> <th>Тур</th> <th>Max</th>	Symbol	Min	Тур	Max		
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 b3 1.20 1.30 1.45 b4 1.60 1.70 1.85 c 0.55 0.60 0.75 D 14.80 15.00 15.20 E 9.96 10.16 10.36 e 2.55 e1 5.10 10.36 H 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 ØP1 3.30 3.50 3.70 ØP2 2.99 3.19 3.39 Q 2.50 2.70 2.90 01 5° 2.70 2.90 01 0.0° <td< td=""><td>А</td><td>4.30</td><td>i</td><td>4.70</td></td<>	А	4.30	i	4.70		
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 b3 1.20 1.30 1.45 b4 1.60 1.70 1.85 c 0.55 0.60 0.75 D 14.80 15.00 15.20 E 9.96 10.16 10.36 e 2.55 e e1 5.10 10.36 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 ØP1 3.30 3.50 3.70 ØP2 2.99 3.19 3.39 Q 2.50 2.70 2.90 01 5° 2.70 2.90	A1	1.10	1.30	1.50		
b 0.50 0.60 0.75 b1 1.10 1.20 1.35 b2 1.50 1.60 1.75 b3 1.20 1.30 1.45 b4 1.60 1.70 1.85 c 0.55 0.60 0.75 D 14.80 15.00 15.20 E 9.96 10.16 10.36 e 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 ØP1 3.30 3.50 3.70 ØP2 2.99 3.19 3.39 Q 2.50 2.70 2.90 01 5° 02 4° 03 10°	A2	2.80	3.00	3.20		
b1 1.10 1.20 1.35 b2 1.50 1.60 1.75 b3 1.20 1.30 1.45 b4 1.60 1.70 1.85 c 0.55 0.60 0.75 D 14.80 15.00 15.20 E 9.96 10.16 10.36 e 2.55 e1 10.36 e1 5.10 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 ØP1 3.30 3.50 3.70 ØP2 2.99 3.19 3.39 Q 2.50 2.70 2.90 01 5° 2.90 02 4° 0.90	A3	2.50	2.70	2.90		
b2 1.50 1.60 1.75 b3 1.20 1.30 1.45 b4 1.60 1.70 1.85 c 0.55 0.60 0.75 D 14.80 15.00 15.20 E 9.96 10.16 10.36 e 2.55 e1 10.36 e 2.55 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 ØP1 3.30 3.50 3.70 ØP2 2.99 3.19 3.39 Q 2.50 2.70 2.90 01 5° 92 03 10°	b	0.50	0.60	0.75		
b3 1.20 1.30 1.45 b4 1.60 1.70 1.85 c 0.55 0.60 0.75 D 14.80 15.00 15.20 E 9.96 10.16 10.36 e 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 ØP1 3.30 3.50 3.70 ØP2 2.99 3.19 3.39 Q 2.50 2.70 2.90 01 5° 0.00 0.00 02 4° 0.00 0.00 0.00	b1	1.10	1.20	1.35		
b4 1.60 1.70 1.85 c 0.55 0.60 0.75 D 14.80 15.00 15.20 E 9.96 10.16 10.36 e 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 ØP1 3.30 3.50 3.70 ØP2 2.99 3.19 3.39 Q 2.50 2.70 2.90 01 5° 0.00 0.00 02 4° 0.00 0.00 0.00	b2	1.50	1.60	1.75		
c 0.55 0.60 0.75 D 14.80 15.00 15.20 E 9.96 10.16 10.36 e 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 ØP1 3.30 3.50 3.70 ØP2 2.99 3.19 3.39 Q 2.50 2.70 2.90 01 5° 0.00 0.00 02 4° 0.00 0.00 0.00 03 10° 0.00 0.00 0.00 0.00	b3	1.20	1.30	1.45		
D 14.80 15.00 15.20 E 9.96 10.16 10.36 e 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 ØP1 3.30 3.50 3.70 ØP2 2.99 3.19 3.39 Q 2.50 2.70 2.90 01 5° 02 4° 0.0° 03 10° 0.0°	b4	1.60	1.70	1.85		
E 9.96 10.16 10.36 e 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 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°	С	0.55	0.60	0.75		
e 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 ØP1 3.30 3.50 3.70 ØP2 2.99 3.19 3.39 Q 2.50 2.70 2.90 Ø1 5° Ø2 4° Ø3 10°	D	14.80	15.00	15.20		
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 ØP1 3.30 3.50 3.70 ØP2 2.99 3.19 3.39 Q 2.50 2.70 2.90 01 5° 0.00 0.00 02 4° 0.00 0.00 03 10° 0.00 0.00	Е	9.96	10.16	10.36		
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 ØP1 3.30 3.50 3.70 ØP2 2.99 3.19 3.39 Q 2.50 2.70 2.90 Ø1 5° Ø2 4° Ø3 10°	е		2.55			
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	e1		5.10			
L1 1.60 1.80 2.00 L2 0.80 1.00 1.20 L3 0.60 0.80 1.00 ØP1 3.30 3.50 3.70 ØP2 2.99 3.19 3.39 Q 2.50 2.70 2.90 01 5° 0.00 0.00 02 4° 0.00 0.00 03 10° 0.00 0.00	H1	6.50	6.70	6.90		
L2 0.80 1.00 1.20 L3 0.60 0.80 1.00 ØP1 3.30 3.50 3.70 ØP2 2.99 3.19 3.39 Q 2.50 2.70 2.90 01 5° 02 4° 03 10°	L	12.70	13.20	13.70		
L3 0.60 0.80 1.00 ØP1 3.30 3.50 3.70 ØP2 2.99 3.19 3.39 Q 2.50 2.70 2.90 01 5° 02 4° 03 10°	L1	1.60	1.80	2.00		
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°	L2	0.80	1.00	1.20		
ØP2 2.99 3.19 3.39 Q 2.50 2.70 2.90 θ1 5° θ2 4° θ3 10°	L3	0.60	0.80	1.00		
Q 2.50 2.70 2.90 01 5° 02 4° 03 10°	øP1	3.30	3.50	3.70		
θ1 5° θ2 4° θ3 10°	øP2	2.99	3.19	3.39		
92 4° 93 10°	θ1	2.50	2.70	2.90		
93 10°			5°			
			4°			
0.4	θ3		10°			
⊎4 5°	θ4		5°			
θ5 5°	θ5		5°			

Tube Specification ITO-220AB



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