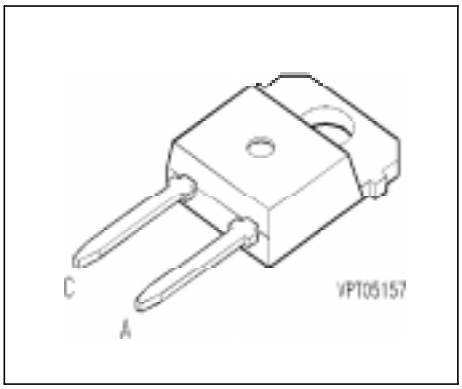
FRED Diode

- Fast recovery epitaxial diode
- Soft recovery characteristics



Type	V_{RRM}	I_{FRMS}	t_{rr}	Package	Ordering Code
BYP 303	1200V	65A	140ns	TO-218 AD	C67047-A2253-A2

Maximum Ratings

Parameter	Symbol	Values	Unit
Mean forward current T_C = 90 °C, D = 0.5	I_{FAV}	40	A
RMS forward current	I_{FRMS}	65	
Surge forward current, sine halfwave, aperiodic T_j = 100 °C, f = 50 Hz	I_{FSM}	170	
Repetitive peak forward current T_j = 100 °C, $t_p \leq 10$ µs	I_{FRM}	370	
i^2t value T_j = 100 °C, t_p = 10 ms	$\int i^2 dt$	145	A^2s
Repetitive peak reverse voltage	V_{RRM}	1200	V
Surge peak reverse voltage	V_{RSM}	1200	
Power dissipation T_C = 90 °C	P_{tot}	120	W
Chip or operating temperature	T_j	-40 ... + 150	°C
Storage temperature	T_{stg}	-40 ... + 150	

Thermal resistance, chip case	R_{thJC}	≤ 0.5	K/W
Thermal resistance, chip-ambient	R_{thJA}	≤ 46	
DIN humidity category, DIN 40 040	-	E	-
IEC climatic category, DIN IEC 68-1	-	40 / 150 / 56	

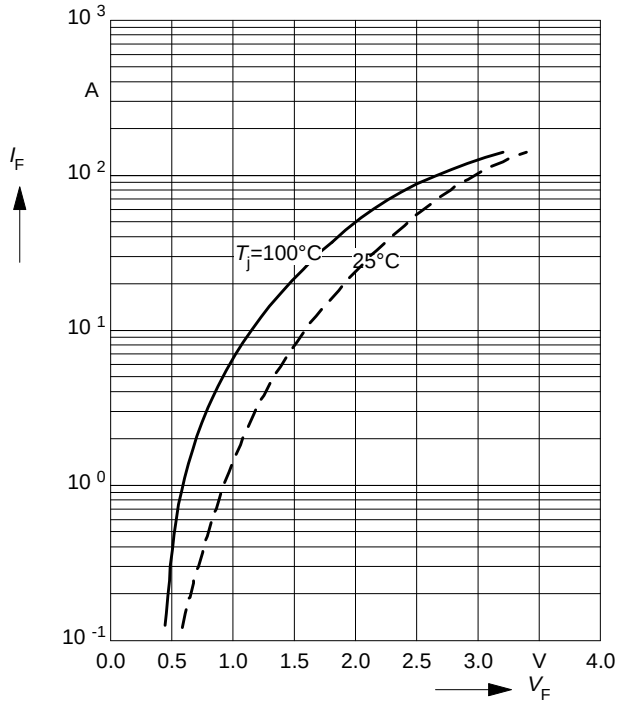
Electrical Characteristics, at T_j = 25 °C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Static Characteristics					
Forward voltage drop	V_F				V
I_F = 25 A, T_j = 25 °C		-	2	-	
I_F = 40 A, T_j = 25 °C		-	2.2	2.8	
I_F = 25 A, T_j = 100 °C		-	1.6	-	
I_F = 40 A, T_j = 100 °C		-	1.8	-	
Reverse current	I_R				mA
V_R = 1200 V, T_j = 25 °C		-	0.01	0.25	
V_R = 1200 V, T_j = 100 °C		-	0.05	-	
V_R = 1200 V, T_j = 150 °C		-	0.15	-	
AC Characteristics					
Reverse recovery charge	Q_{rr}				µC
I_F = 40 A, V_{CC} = 500 V, di_F/dt = -1000 A/µs					
T_j = 100 °C		-	6	-	
Peak reverse recovery current	I_{RRM}				A
I_F = 40 A, V_{CC} = 500 V, di_F/dt = -1000 A/µs					
T_j = 100 °C		-	60	-	
Reverse recovery time	t_{rr}				ns
I_F = 40 A, V_{CC} = 500 V, di_F/dt = -1000 A/µs					
T_j = 100 °C		-	140	-	
Storage time	t_S				
I_F = 40 A, V_{CC} = 500 V, di_F/dt = -1000 A/µs					
T_j = 100 °C		-	70	-	
Softfaktor	S				-
I_F = 40 A, V_{CC} = 500 V, di_F/dt = -1000 A/µs					
T_j = 100 °C		-	1	-	

Typ. forward characteristics

$I_F = f(V_F)$

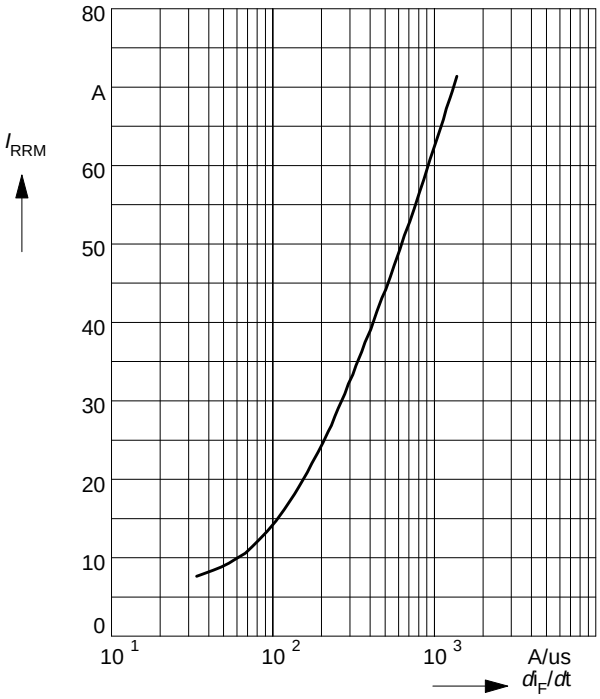
parameter: T_j



Typ. reverse current

I_{RRM} = f (di_F / dt)

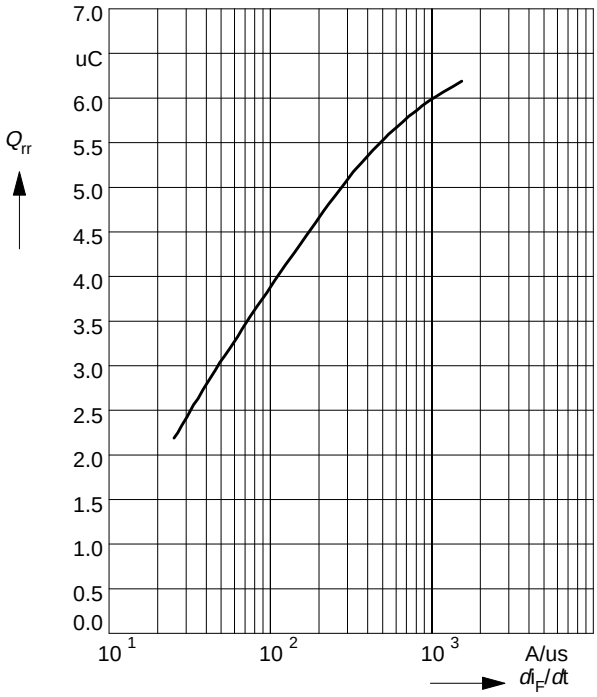
parameter: V_{CC} = 500 V, I_F = 40 A, T_j = 100 °C



Typ. reverse recovery charge

Q_{rr} = f (di_F / dt)

parameter: V_{CC} = 500 V, I_F = 40 A, T_j = 100 °C



littlediode
COMPONENTS FOR ALL

Littlediode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

LittleDiode.com

Looking forward to providing you with the best possible service.