

STANDARD RECOVERY DIODES

Stud

Version

Features

- High surge current capability
- Designed for a wide range of applications
- Stud cathode and stud anode version
- Leaded version available
- Types up to 2000V V_{RRM}

Typical Applications

- Battery charges
- Converters
- Power supplies
- Machine tool controls
- Welding



Major Ratings and Characteristics

Parameters		D355 N2000(R)..	Units
$I_{F(AV)}$		355	A
	@ T_c	110	°C
$I_{F(RSM)}$		235	A
I_{FSM}	@ 50Hz	6550	A
	@ 60Hz	6850	A
$I^2 t$	@ 50Hz	214	KA ² s
	@ 60Hz	195	KA ² s
V_{RRM}	range	100 to 2000	V
T_J	range	- 40 to 150	°C

ELECTRICAL SPECIFICATIONS

Voltage Ratings

Type number	Voltage Code	V_{RRM} , maximum repetitive peak reverse voltage	V_{RSM} , maximum non-repetitive peak reverse voltage	I_{RRM} max. @ $T_J = T_J$ max.
		V	V	mA
D355 N2000(R)..	04	400	500	5.00
	08	800	900	
	12	1200	1300	
	14	1400	1500	
	16	1600	1700	
	18	1800	1900	
	20	2000	2100	

Forward Conduction

Parameter		D355 N2000(R)..	Units	Conditions		
$I_{F(AV)}$	Max. average forward current @ Case temperature	355	A	180° conduction, half sine wave		
		100	°C			
$I_{F(RMS)}$	Max. RMS forward current	470	A			
I_{FSM}	Maximum peak, one-cycle forward, non-repetitive surge current	6550	A	t = 10ms	No voltage reappplied	Sinusoidal half wave, Initial $T_J = T_J$ max.
		6850		t = 8.3ms		
		5500		t = 10ms	100% V_{RRM} reappplied	
		5750		t = 8.3ms		
$I^2 t$	Maximum $I^2 t$ for fusing	214	KA ² s	t = 10ms	No voltage reappplied	
		195		t = 8.3ms		
		151		t = 10ms	100% V_{RRM} reappplied	
		138		t = 8.3ms		
$I^2 \sqrt{t}$	Maximum $I^2 \sqrt{t}$ for fusing	2140	KA ² √s	t = 0.1 to 10ms, no voltage reappplied		
$V_{F(TO)1}$	Low level value of threshold voltage	0.61	V	$T_J = T_J$ max.		
$V_{F(TO)2}$	High level value of threshold voltage	0.75		$T_J = T_J$ max.		
r_{f1}	Low level value of forward slope resistance	0.75	m	$T_J = T_J$ max.		
r_{f2}	High level value of forward slope resistance	0.62		$T_J = T_J$ max.		
V_{FM}	Maximum on-state or forward	1.30	V	I _{pk} = 1000A, $T_J = 25^\circ\text{C}$, $t_p = 10\text{ms}$ sinusoidal wave		

Thermal and Mechanical Specifications

Parameter	D355 N2000(R)..	Units	Conditions
T _J Max. junction operating temperature range	-40 to 150	°C	Junction to case
T _{Stg} Max. storage temperature range	-40 to 170	°C	
R _{thJC} Max. thermal resistance, junction to case	0.19	K/W	DC operation
R _{thSC} Max. thermal resistance, case to heatsink	0.08		Mounting surface, smooth, flat and greased
T Max. allowed mounting torque +0 -20%	28	Nm	Not lubricated threads
	248	lbf.in	
	37	Nm	Lubricated threads
	328	lbf.in	
wt Approximate weight	250(2212)	g (oz)	
Case style	DO-205AB (DO-9)		See Outline Table

Ordering Information Table

Device Code					
1	D	355	R	120	M
1	2	3	4	5	6
1					
2	A = Standard device				
3	Current rating: Code = IF(AV)				
4	None = Stud Normal Polarity (Cathode to Stud)				
	R = Stud Reverse Polarity (Anode to Stud)				
5	Voltage code: Code x 10 = VRRM (See Voltage Ratings table)				
6	None = Stud base DO-205AB (DO-9) 3/4-16UNF-2A				
	M = Stud base DO-205AC (DO-30) M16 X 1.5				

Outline

