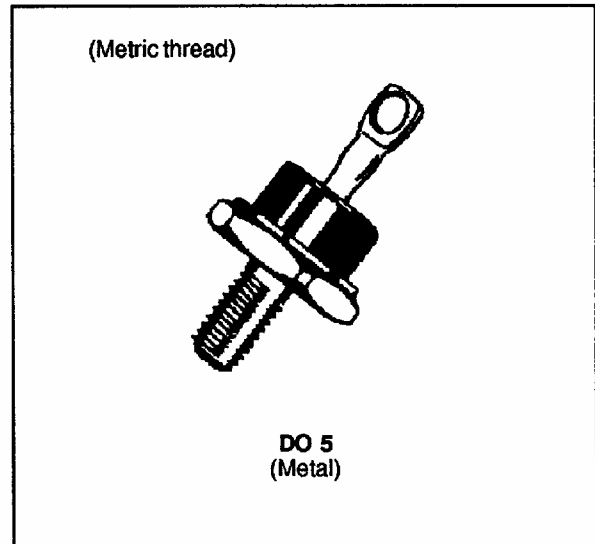


**FAST RECOVERY RECTIFIER DIODES**

- VERY FAST RECOVERY TIME
- HIGH SURGE CURRENT CAPABILITY
- VERY LOW FORWARD RECOVERY TIME
- VERY LOW RECOVERED CHARGE



**APPLICATIONS**

- DC AND AC MOTOR CONTROL
- SWITCH MODE POWER SUPPLY
- HIGH FREQUENCY CHOPPERS

**ABSOLUTE MAXIMUM RATINGS (limiting values)**

Symbol	Parameter		Value	Unit
$I_{FRM}$	Repetive Peak Forward Current	$t_p \leq 20\mu s$	500	A
$I_{F(AV)}$	Average Forward Current	$T_C = 90^\circ C$	60	A
$I_{FSM}$	Surge non Repetitive Forward Current	$t_p = 10ms$ Sinusoidal	800	A
$P_{tot}$	Power Dissipation	$T_C = 90^\circ C$	110	W
$T_{stg}$ $T_J$	Storage and Junction Temperature Range		- 65 to + 165 - 65 to + 165	$^\circ C$

Symbol	Parameter	ESM 243-					Unit
		50	100	200	300	400	
$V_{RRM}$	Repetitive Peak Reverse Voltage	50	100	200	300	400	V

**THERMAL RESISTANCE**

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction-case	0.7	$^\circ C/W$

**ELECTRICAL CHARACTERISTICS****STATIC CHARACTERISTICS**

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
$I_R$	$T_j = 100^\circ\text{C}$	$V_R = V_{RRM}$			10	mA
$V_F$	$T_j = 25^\circ\text{C}$	$I_F = 60\text{A}$			1.5	V

**RECOVERY CHARACTERISTICS**

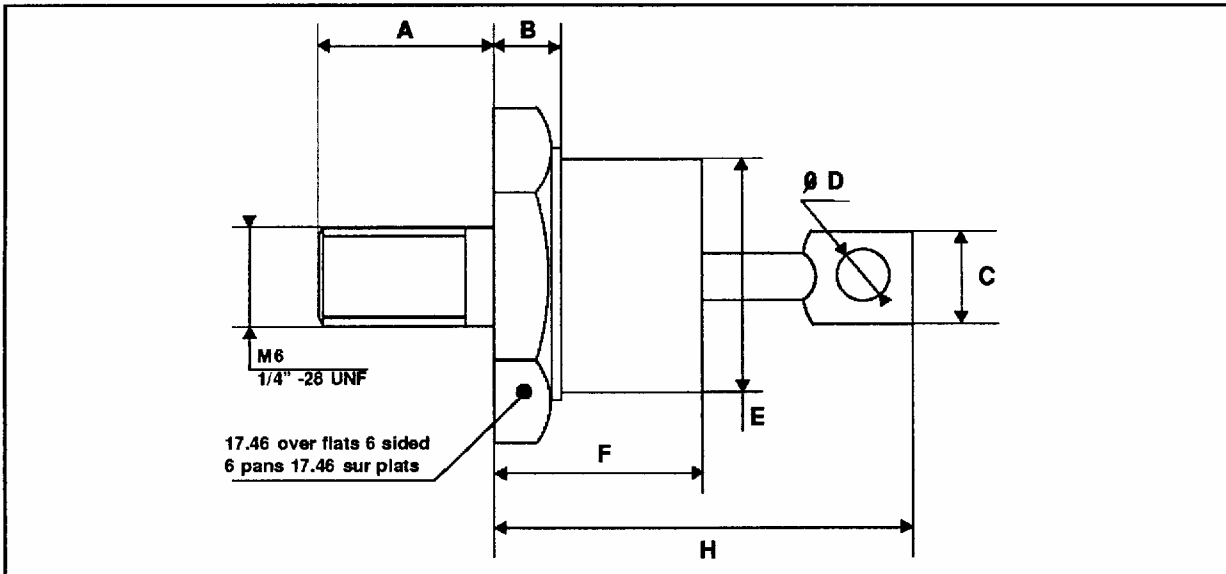
Symbol	Test Conditions			Min.	Typ.	Max.	Unit
$t_{rr}$	$T_j = 25^\circ\text{C}$ $V_R = 30\text{V}$	$I_F = 1\text{A}$	$di_F/dt = -15\text{A}/\mu\text{s}$			100	ns
$Q_{rr}$	$T_j = 25^\circ\text{C}$ $V_R = 30\text{V}$	$I_F = 1\text{A}$	$di_F/dt = -15\text{A}/\mu\text{s}$			0.075	$\mu\text{C}$
$I_{RM}$	$T_j = 25^\circ\text{C}$ $V_R = 30\text{V}$	$I_F = 1\text{A}$	$di_F/dt = -15\text{A}/\mu\text{s}$			1.5	A

To evaluate the conduction losses use the following equations :

$$V_F = 1.15 + 0.004 I_F \quad P = 1.15 \times I_{F(AV)} + 0.004 I_{F(RMS)}^2$$

**PACKAGE MECHANICAL DATA**

**DO 5 Metal**



REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	10.72		12.70	0.422		0.500
B	2.93		5.08	0.115		0.200
C			9.52			0.375
D	3.56		4.44	0.140		0.175
E			16.94			0.667
F			12.70			0.500
H			25.40			1

Cooling method : by conduction (method C)  
 Marking : Cathode connected to case : type number  
 Anode connected to case : type number + suffix R (consult us for these reserve version datasheets)  
 Weight : 18.84g  
 Recommended torque value : 250cm. N  
 Maximum torque value : 310cm. N

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