STANDARD RECOVERY DIODES

Features

- Hermetic metal case with ceramic insulator
- High surge current capabilities
- Stud cathode and stud anode version

160A

Typical Applications

- Converters
- Power supplies
- Machine tool controls
- High power drives
- Medium traction applications

Major Ratings and Characteristics

Parameters		DA160A(K)1K 8VM	Units
$I_{F(AV)}$		160	A
	@ T_{hs}	140	°C
$I_{F(RMS)}$		256	A
I_{FSM}	@ 50Hz	2000	A
	@ 60Hz	2090	A
I^2t	@ 50Hz	20000	A^2s
	@ 60Hz	18180	A^2s
V_{RRM} range		1800	V
T_J		- 40 to 180	°C

ELECTRICAL SPECIFICATIONS

Voltage Ratings

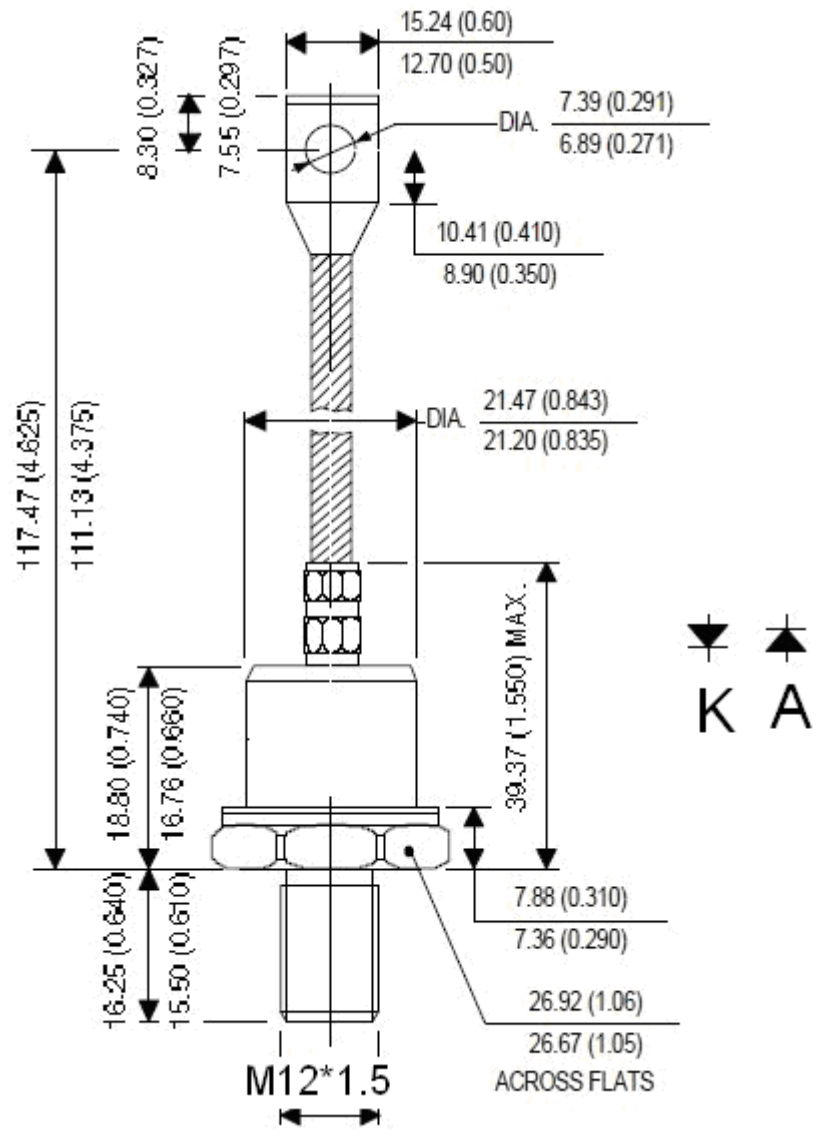
	Voltage Code	V_{RRM}, maximum repetitive peak reverse voltage V	V_{RSM}, maximum non-repetitive peak rev. voltage V	I_{RRM} max. @ $T_J = T_J$ max. mA
DA160A(K)	10	1000	1100	9
	12	1200	1300	
	14	1400	1500	
	16	1600	1700	
	18	1800	1900	

Forward Conduction

Parameter		DA160A(K)	Units	Conditions		
$I_{F(AV)}$	Max. average forward current	160	A	180° conduction, half sine wave		
	@ Heatsink temperature	140	°C	Double side (single side) cooled		
$I_{F(RMS)}$	Max.RMS forward current	256	A	DC@110°C case temperature		
I_{FSM},	Max. peak, one-cycle forward, non-repetitive surge current	2000	A	t = 10ms	No voltage reapplied	Sinusoidal half wave, Initial T_J = 150°C
		2090		t = 8.3ms		
		1680		t = 10ms	100% V_{RRM} reapplied	
		1760		t = 8.3ms		
I^2t	Maximum I^2t for fusing	20000	A^2s	t = 10ms	No voltage reapplied	
		18180		t = 8.3ms		
		14100		t = 10ms	100% V_{RRM} reapplied	
		12800		t = 8.3ms		
$I^2\sqrt{t}$	Maximum $I^2\sqrt{t}$ for fusing	200000	$A^2\sqrt{s}$	t = 0.1 to 10ms, no voltage reapplied		
V_{TM}	Max. forward voltage drop	1.10	V	I_{pk} = 267A, T_J = 25°C, t_p=400 μ s rectangular wave		
$V_{F(TO)}$	Low level value of threshold voltage	0.73	V	(16.7%× π × $I_{F(AV)}$<1< π × $I_{F(AV)}$), T_J=T_J max		
r_f	Low level value of forward slope resistance	0.49	MΩ	(16.7%× π × $I_{F(AV)}$<1< π × $I_{F(AV)}$), T_J=T_J max		

Thermal and Mechanical Specification

	Parameter	DA160A(K)	Units	Conditions
T_J	Max.junction operating temperature range	-55to 180	°C	
T_{stg}	Max. storage temperature range	-55 to 180		
R_{thJC}	Max,thermal resistance,junction to case	0.27	K/W	DC operation
R_{thCS}	Max. thermal resistance,Case to heatsink	0.25		DC operation single(double) side cooled
T	Max.allowed Mounting torque, ± 10%	7	N	
wt	Approximate weight	160	g	


15.24 (0.60)
12.70 (0.50)
8.30 (0.327)
7.55 (0.297)
DIA.
7.39 (0.291)
6.89 (0.271)
10.41 (0.410)
8.90 (0.350)
117.47 (4.625)
111.13 (4.375)
DIA.
21.47 (0.843)
21.20 (0.835)
39.37 (1.550) MAX.
18.80 (0.740)
16.76 (0.660)
16.25 (0.640)
15.50 (0.610)
7.88 (0.310)
7.36 (0.290)
26.92 (1.06)
26.67 (1.05)
ACROSS FLATS
M12*1.5
K
A

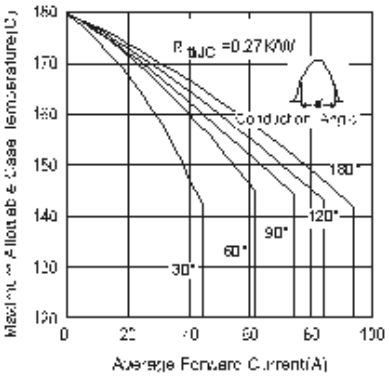


Fig.1-Current Ratings Characteristics

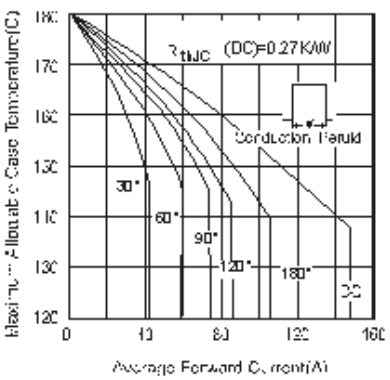


Fig.2-Current Ratings Characteristics

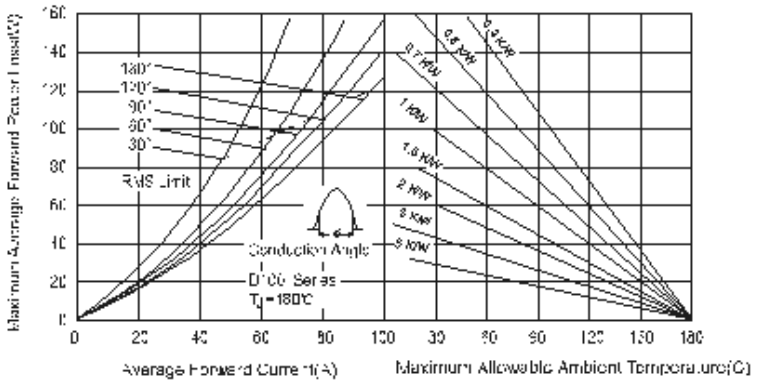


Fig.3-Forward Power Loss Characteristics

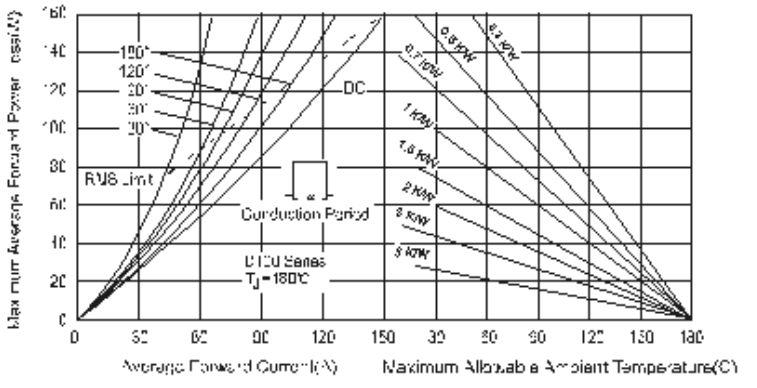


Fig.4-Forward Power Loss Characteristics