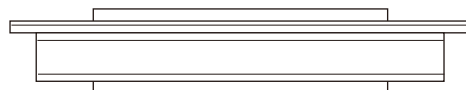


Standard Recovery Diodes (Hockey PUK Version), 7100A

FEATURES

- Wide current range
- Voltage ratings: 200V to 600V
- High surge current capabilities
- Diffused junction
- Hockey PUK version
- Lead (Pb)-free



TYPICAL APPLICATIONS

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

PRODUCT SUMMARY

$I_{F(AV)}$	7100A
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MAJOR RATINGS AND CHARACTERISTICS

PARAMETER	TEST CONDITIONS	VALUES	UNIT
$I_{F(AV)}$		7100	A
	T_{hs}	85	°C
$I_{F(RMS)}$		12837	A
	T_{hs}	25	°C
I_{FSM}	50 HZ	55000	A
	60 HZ	49995	
I^2t	50 HZ	15100	kA^2s
	60 HZ	13739	
V_{RRM}		200 to 600	V
T_J	Typical	-40 to 150	°C

ELECTRICAL SPECIFICATIONS

VOLTAGE RATINGS

TYPE NUMBER	VOLTAGE CODE	V_{RRM} , MAXIMUM REPETITIVE PEAK REVERSE VOLTAGE V	V_{RSM} , MAXIMUM NON-REPETITIVE PEAK REVERSE VOLTAGE V	I_{RRM} , MAXIMUM AT $T_J = T_J$ MAXIMUM mA
D7100W	02	200	300	50
	04	400	500	
	06	600	700	

FORWARD CONDUCTION						
PARAMETER	SYMBOL	TEST CONDITIONS			VALUES	UNIT
Maximum average forward current at heatsink temperature	$I_{F(AV)}$	180° conduction, half sine wave Double side cooled			7100	A
					85	°C
Maximum RMS forward current	$I_{F(RMS)}$	25°C heatsink temperature double side cooled			7881	A
Maximum peak, one cycle non-reptitive surge current	I_{FSM}	t = 10ms	No voltage reapplied	Sinusoidal half wave, initial $T_J = T_J$ maximum	55000	A
		t = 8.3ms			57587	
		t = 10ms	100% V_{RRM} reapplied		46200	
		t = 8.3ms			48375	
Maximum I^2t for fusing	I^2t	t = 10ms	No voltage reapplied		15100	kA ² s
		t = 8.3ms			13739	
		t = 10ms	100% V_{RRM} reapplied		10654	
		t = 8.3ms			9694	
Maximum $I^2\sqrt{t}$ for fusing	$I^2\sqrt{t}$	t = 0.1 to 10 ms, no voltage reapplied			151000	kA ² $\sqrt{s}$
Maximum value of threshold voltage	$V_{F(TO)}$	I_{FM} =5000 ~ 15000A, T_J = T_J maximum			0.74	V
Maximum value of forward slope resistance	r_t				0.026	mΩ
Maximum forward voltage drop	V_{FM}	Forward Current = 7100A , T_J = 25°C			1.05	V

THERMAL AND MECHANICAL SPECIFICATIONS				
PARAMETER	SYMBOL	TEST CONDITIONS	VALUES	UNIT
Maximum junction operating temperature range	T_J	At 180 sine, double side cooled Clamping force 24.0 KN	-40 to 150	°C
Maximum storage temperature range	T_{stg}		-40 to 170	
Thermal resistance (junction to case)	$R_{th(j-c)}$		0.01	°C/W
Thermal resistance (case to heatsink)	$R_{th(c-hs)}$		0.005	
Mounting force, ±10%	F_m		19~26 (1938~2653)	KN (kg)
Approximate weight			140	g

ORDERING INFORMATION TABLE

Device code	D	7100	W	02
	①	②	③	④

- ① - "D" for standard recovery diode
- ② - Maximum average forward current, "7100" for 7100A
- ③ - Package style
- ④ - Voltage code, code x 100 = V_{RRM}

Fig.1 Transient thermal impedance(junction to case) vs. Time

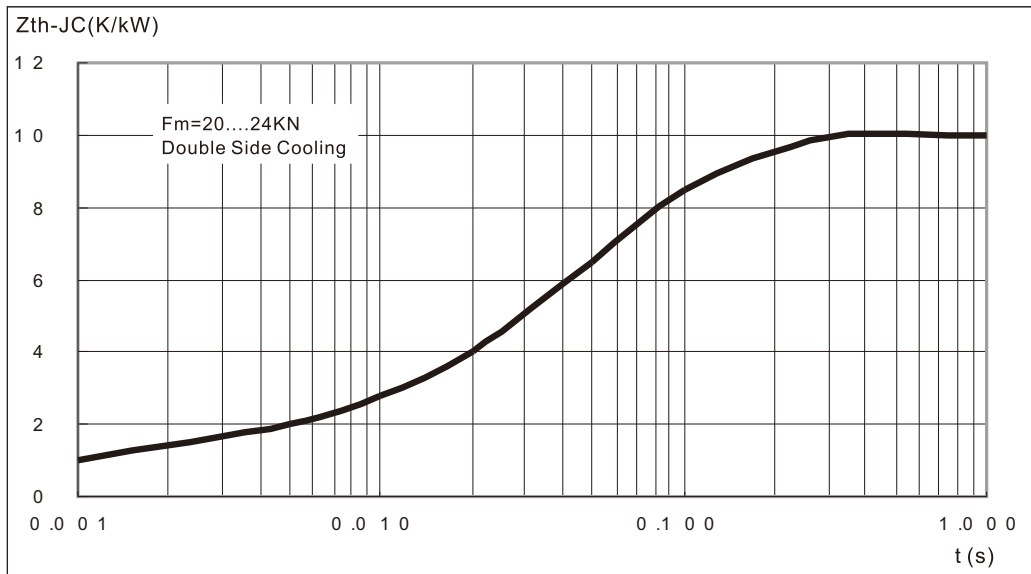


Fig.2 Forward current vs. Forward voltage

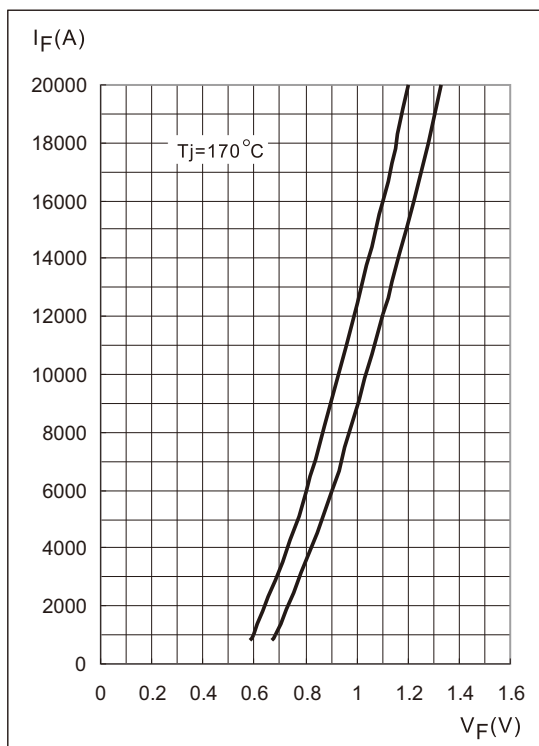


Fig.3 Surge current and fusing integral vs. Pulse width (non-repetitive)

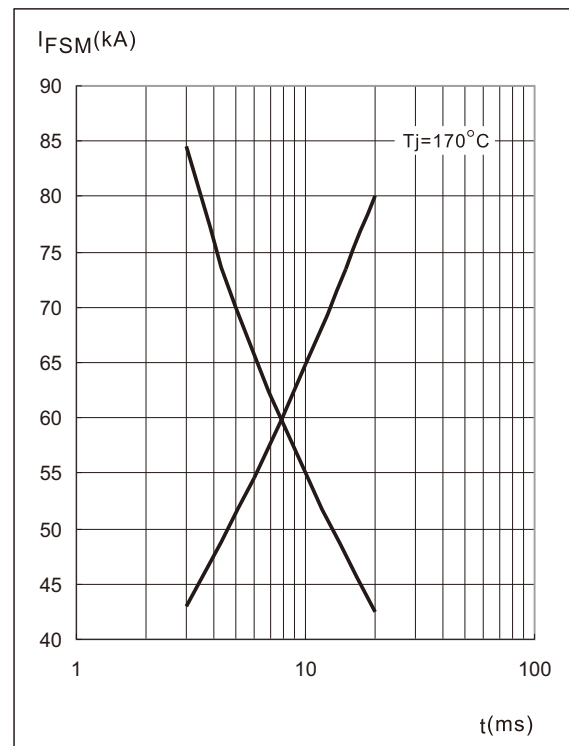


Fig.4 DC-output current with single-phase centre tap

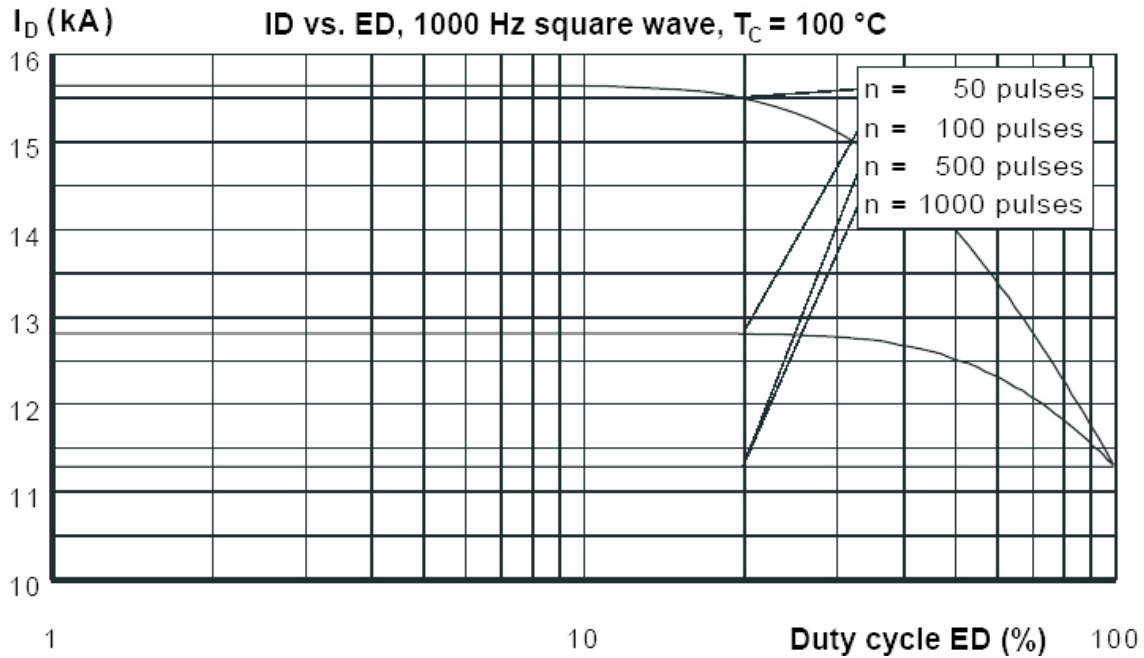
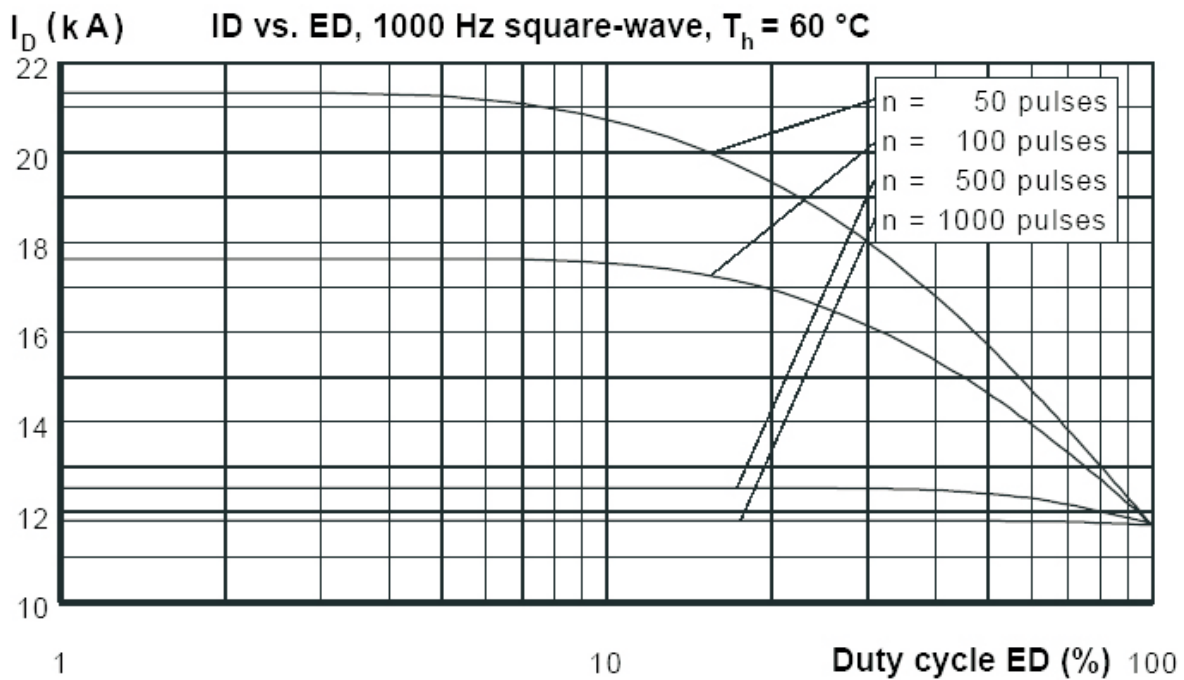
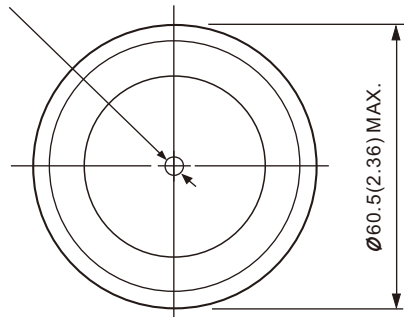


Fig.5 DC-output current with single-phase centre tap

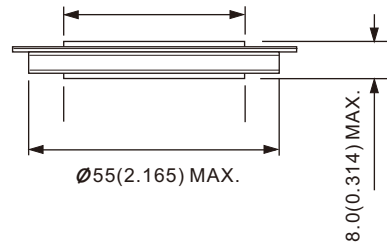


Package

Ø3.5(0.14) NOM. x
1.5(0.059) deep MIN. both ends



Ø44.0±0.10(1.73) MAX.
2 places



All dimensions in millimeters (inches)