RUTTONSHA

Ruttonsha International Rectifier Ltd.

SILICON RECTIFIERS

TYPE: R 2800M..F SERIES

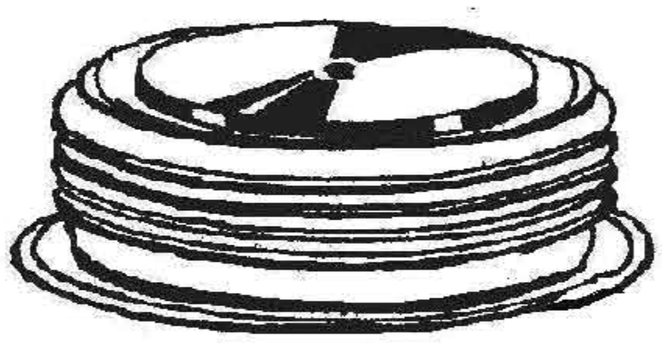
FAST RECOVERY DIODES

Typical Applications

- Snubber diode for GTO
- High voltage free-wheeling diode
- Fast recovery rectifier applications

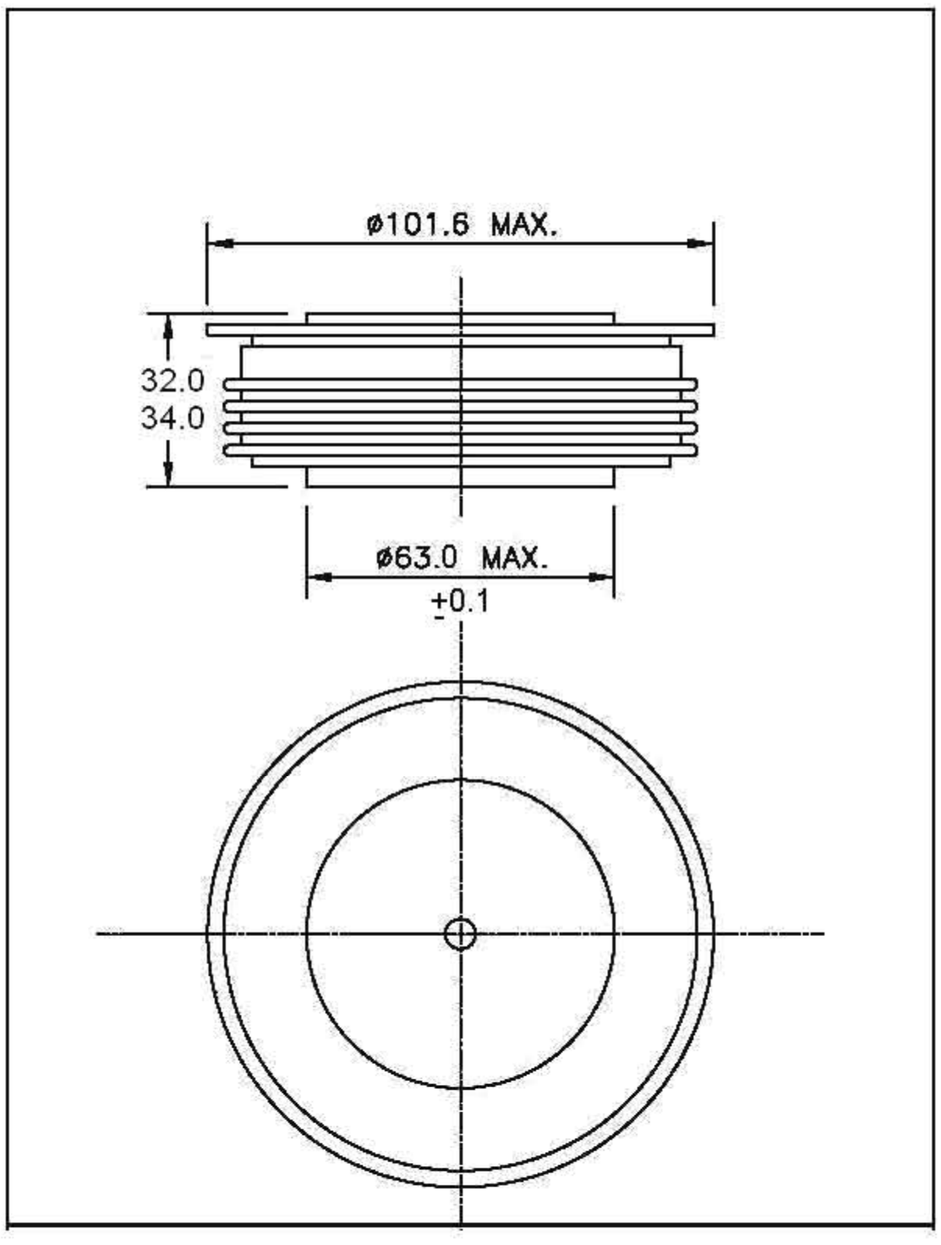
Hockey Puk Version

CASE STYLE (M-PUK)



Major Ratings and Characteristics

Parameters		R2800M..F	Units
$I_{F(AV)}$		2837	A
	@ T_{hs}	55	°C
$I_{F(RMS)}$		4454	A
I_{FSM}	@ 50Hz	35000	A
V_{RRM} range		1800 to 2500	V
t_{rr}		7.0	µs
	@ T_J	150	°C
T_J		- 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 rev. voltage V	I_{RRM} max. @ $T_J = T_J$ max. mA
R2800M..F	18	1800	1900	100
	22	2200	2300	
	25	2500	2600	

Forward Conduction

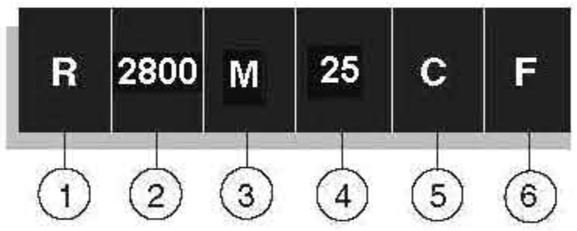
	Parameter	R2800M..F	Units	Conditions
$I_{F(AV)}$	Max. average forward current	2837	A	180° conduction, half sine wave
	@ heatsink temperature	55	°C	Double side cooled
$I_{F(RMS)}$	Max. RMS forward current	4554	A	@ 55°C heatsink temperature double side cooled
I_{FSM}	Max. peak, one-cycle forward, non-repetitive surge current	35000	A	t = 10ms; Sinusoidal half wave, Initial $T_J = T_J$ max.
I^2t	Maximum I^2t for fusing	6125	KA^2s	t = 10ms; Sinusoidal half wave, Initial $T_J = T_J$ max.
$I^2\sqrt{t}$	Maximum $I^2\sqrt{t}$ for fusing	61250	$KA^2\sqrt{s}$	t = 0.1 to 10ms, no voltage reapplied
$V_{F(TO)}$	Threshold voltage	0.9	V	$T_J = T_J$ max.
r_T	Forward slope resistance	0.17	mΩ	$T_J = T_J$ max.
V_{FM}	Max. forward voltage drop	1.41	V	I_{pk}=3000A, $T_J = T_J$ max, t_p = 10ms sinusoidal wave
trr	Reverse Recovery time	7.0	us	IFM=1000A, di/dt=60A/us

Thermal and Mechanical Specifications

	Parameter	R2800M..F	Units	Conditions
T_J	Max. junction operating temperature range	-40 to 150	°C	
T_{stg}	Max. storage temperature range	-40 to 150		
$R_{thJ\text{-}hs}$	Max. thermal resistance, case junction to heatsink	0.016	K/W	DC operation double side cooled
F	Mounting force, ± 10%	40	KN	
wt	Approximate weight	1000	g	
	Case style	(M-PUK)		See Outline Table

Ordering Information Table

Device Code



1 - R = Diode
2 - Essential part number
3 - M = Puk Case
4 - Voltage code: Code x 100 = V_{RRM} (See Voltage Ratings table)
5 - C = Ceramic Puk
6 - F = Fast recovery