



Ruttonsha International Rectifier Ltd.

STANDARD RECOVERY DIODES

High Power Diode Hockey Puk Version R1600 E...C Series

FEATURES

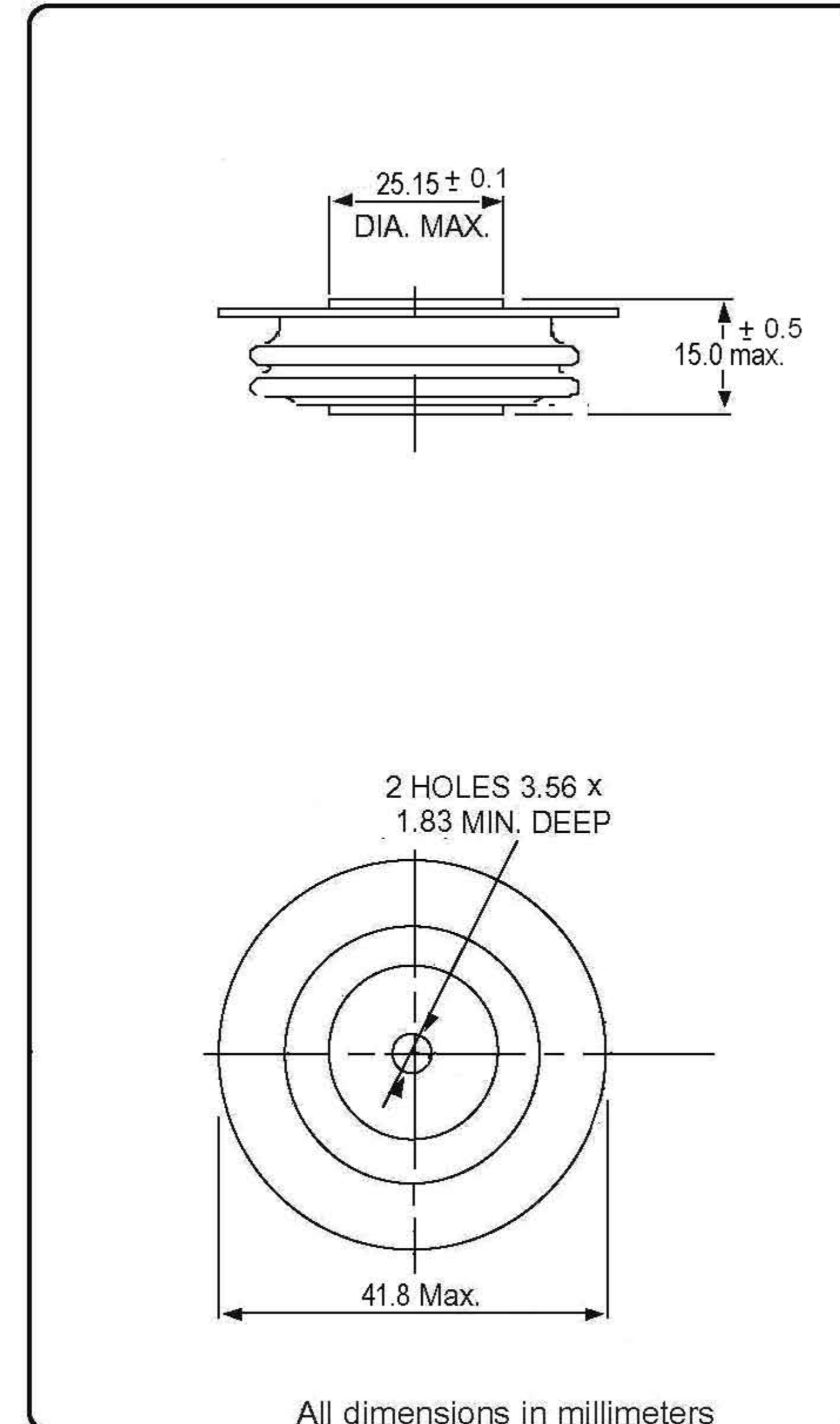
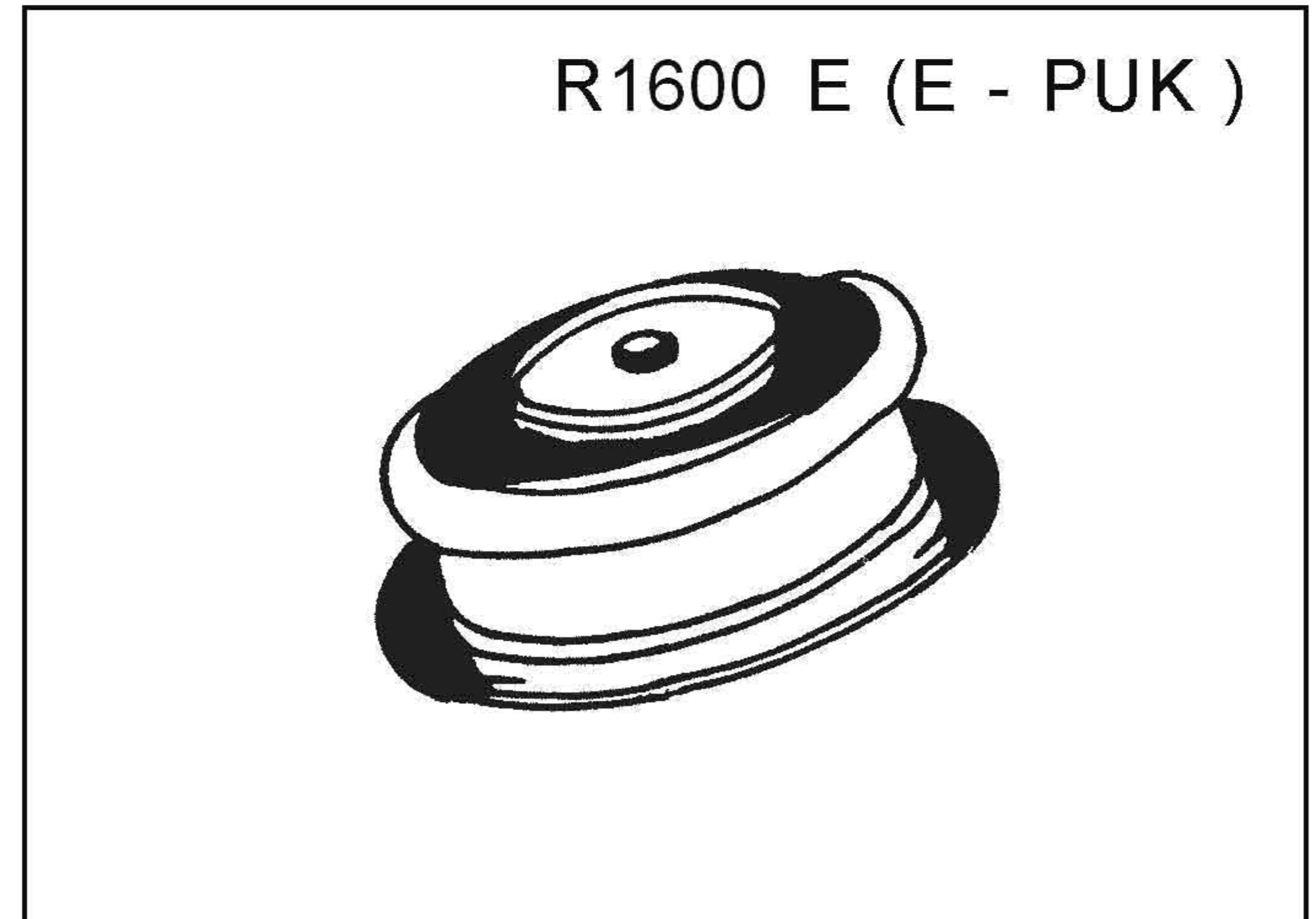
- ⌘ Wide current range
- ⌘ High surge current capabilities
- ⌘ Case style DO- 200AB (E-PUK)

TYPICAL APPLICATIONS

- ⌘ Converters
- ⌘ High power drives
- ⌘ Power supplies
- ⌘ Traction Application

MAJOR RATINGS & CHARACTERISTICS

Parameters	R1600 E	Units	
$I_{F(AV)}$	1600	A	
@ T_{hs}	55	°C	
$I_{F(RMS)}$	2512	A	
@ T_{hs}	55	°C	
I_{FSM}	@ 50 Hz	16000	A
I^2t	@ 50 Hz	1280	KA ² s
V_{RRM} range	200 to 800	V	
T_J	-30 to 160	°C	



STANDARD RECOVERY DIODES

R 1600 E

ELECTRICAL SPECIFICATION

VOLTAGE RATINGS

Type Number	Voltage Code	V_{RRM} , max. repetitive peak reverse voltage V	V_{RRM} , max. non-repetitive peak reverse voltage V	I_{DRM} max. @ $T_J = T_J$ max. mA
R 1600 E	02	200	300	50
	04	400	500	
	06	600	700	
	08	800	900	

FORWARD CONDUCTION

	Parameter	R1600E	Units	Conditions
$I_{F(AV)}$	Max. average Forward current @ heat sink temperature	1600	A	180° conduction, half sine wave double side cooled
		55	°C	
$I_{F(RMS)}$	Max. RMS Forward current	2512	A	@55°C heat sink temperature (double side cooled)
I_{FSM}	Max. peak one cycle Forward non-repetitive surge current	16000	A	t = 10ms
I^2t	Maximum I^2t for fusing	1280	kA ² s	t = 10ms
$I^2\sqrt{t}$	Maximum $I^2\sqrt{t}$ for fusing	12800	kA ² √s	t = 0.1 to 10ms. No voltage reapplied.
$V_{F(TO)}$	Threshold voltage	0.75	V	$T_J = T_J$ max.
r_f	Forward slope resistance	0.250	mΩ	$T_J = T_J$ max.
V_{FM}	Max. Forward voltage drop	1.55	V	$I_{pk} = 3000A$, $T_J = T_J$ max., $t_p = 10ms$ sine pulse

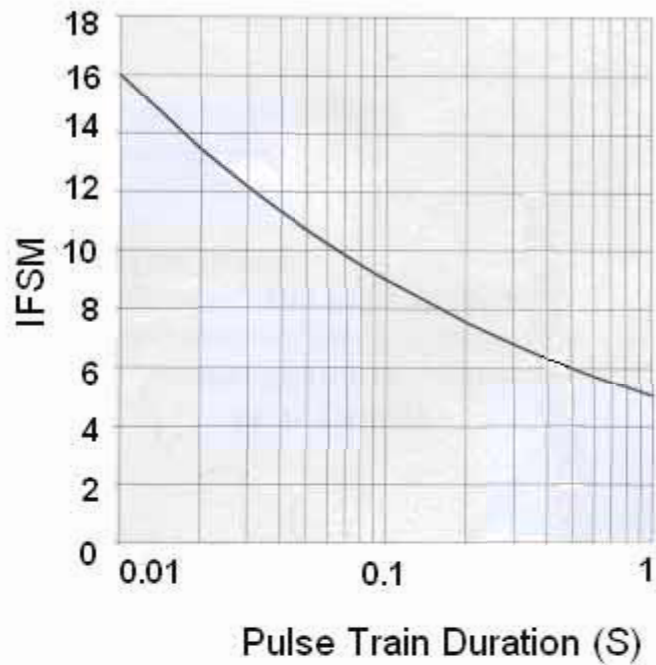
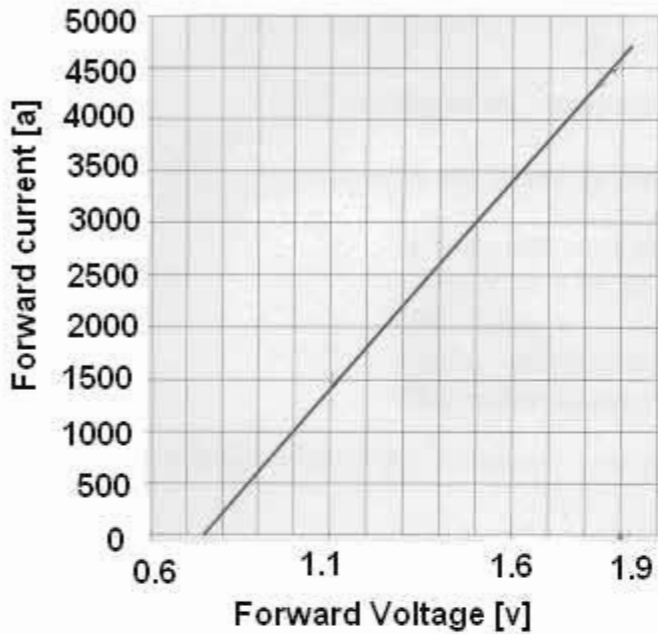
THERMAL AND MECHANICAL SPECIFICATION

	Parameter	R1600E	Units	Conditions
T_J	Max. operating temperature range	-30 to 160	°C	
T_{stg}	Max. storage temperature range	-55 to 160		
R_{thJ-hs}	Max. thermal resistance, junction to heat sink	0.038	°C/K/W	DC operation double side cooled
F	Mounting force, ±10%	9800 (1000)	N (kg)	
w t	Approximate weight	83	g	
	Case style	E-PUK		See outline

STANDARD RECOVERY DIODES

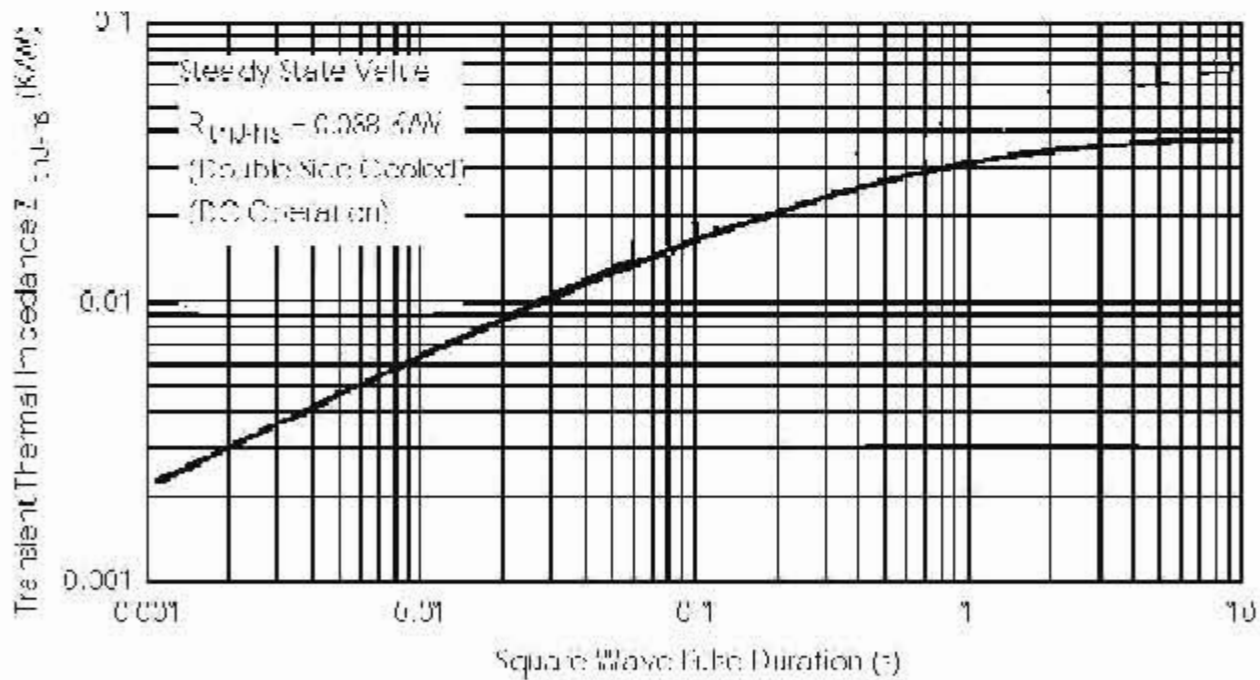
R1600E

FORWARD CHARACTERISTIC
 $T_j = 160^\circ\text{C}$



TRANSIENT THERMAL IMPEDANCE
 DOUBLE SIDE COOLED

Max, Non Repetitive surge current



Thermal Impedance $Z_{th(j-t)}$ Characteristics