



**APT1001R1BNG 1000V 10.5A 1.10Ω**

## POWER MOS IV®

### N-CHANNEL ENHANCEMENT MODE HIGH VOLTAGE POWER MOSFETS

#### MAXIMUM RATINGS

All Ratings:  $T_C = 25^\circ\text{C}$  unless otherwise specified.

Symbol	Parameter	APT 1001RBNG	UNIT
$V_{DSS}$	Drain-Source Voltage	1000	Volts
$I_D$	Continuous Drain Current @ $T_C = 25^\circ\text{C}$	10.5	Amps
$I_{DM}$	Pulsed Drain Current <sup>①</sup>	42	
$V_{GS}$	Gate-Source Voltage	$\pm 30$	Volts
$P_D$	Total Power Dissipation @ $T_C = 25^\circ\text{C}$	310	Watts
	Linear Derating Factor	2.48	W/°C
$T_J, T_{STG}$	Operating and Storage Junction Temperature Range	-55 to 150	°C
$T_L$	Lead Temperature: 0.063" from Case for 10 Sec.	300	

#### STATIC ELECTRICAL CHARACTERISTICS

Symbol	Characteristic / Test Conditions / Part Number	MIN	TYP	MAX	UNIT
$BV_{DSS}$	Drain-Source Breakdown Voltage ( $V_{GS} = 0V, I_D = 250 \mu\text{A}$ )	APT1001R1BNG	1000		Volts
$I_{D(ON)}$	On State Drain Current <sup>②</sup> ( $V_{DS} > I_{D(ON)} \times R_{DS(ON)}$ Max, $V_{GS} = 10V$ )	APT1001R1BNG	10.5		Amps
$R_{DS(ON)}$	Drain-Source On-State Resistance <sup>②</sup> ( $V_{GS} = 10V, 0.5 I_D$ [Cont.])	APT1001R1BNG		1.10	Ohms
$I_{DSS}$	Zero Gate Voltage Drain Current ( $V_{DS} = V_{DSS}, V_{GS} = 0V$ )			250	$\mu\text{A}$
	Zero Gate Voltage Drain Current ( $V_{DS} = 0.8 V_{DSS}, V_{GS} = 0V, T_C = 125^\circ\text{C}$ )			1000	
$I_{GSS}$	Gate-Source Leakage Current ( $V_{GS} = \pm 30V, V_{DS} = 0V$ )			$\pm 100$	nA
$V_{GS(TH)}$	Gate Threshold Voltage ( $V_{DS} = V_{GS}, I_D = 1.0\text{mA}$ )	2		4	Volts

#### THERMAL CHARACTERISTICS

Symbol	Characteristic	MIN	TYP	MAX	UNIT
$R_{\theta JC}$	Junction to Case			0.40	°C/W
$R_{\theta JA}$	Junction to Ambient			40	

**CAUTION:** These Devices are Sensitive to Electrostatic Discharge. Proper Handling Procedures Should Be Followed.

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