

SIC SCHOTTKY BARRIER RECTIFIERS

Features

- SiC Schottky, majority carrier conduction
- Low reverse leakage current
- Low forward voltage drop
- High surge capacity
- Meet UL flammability classification 94V-0

Mechanical Data

- Case: TO-220AC / ITO-220AC / TO-263AB
- Polarity: Color band denotes cathode
- Mounting position: Any

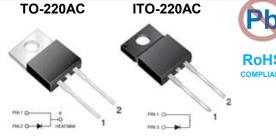
Note: Products with logo or

are made by HY Electronic (Cayman) Limited.

Applications

• For use in high voltage, high frequency inverters, free wheeling, polarity protection applications

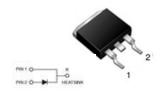
REVERSE VOLTAGE 650 Volts FORWARD CURRENT 10 Amperes



HCR1065

HCRF1065

TO-263AB



HCRB1065

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave ,60Hz, resistive or inductive load.

For capacitive load, derate current by 20%

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)

CHARACTERISTICS	SYMBOL	HCR(F,B)1065	UNIT
Maximum Recurrent Peak Reverse Voltage	VRRM	650	V
Maximum RMS Voltage	VRMS	459	V
Maximum DC Blocking Voltage	VDC	650	V
Maximum Average Forward Rectified Current (See Fig.1)	I(AV)	10	Α
Peak Forward Surge Current			
8.3ms Single Half Sine-Wave	IFSM	50	Α
Super Imposed on Rated Load			
Peak repetitive reverse current at tp = 2 μs, 1 kHz	I _{RRM}	1	Α
Operating Temperature Range	TJ	-55 to +175	$^{\circ}$
Storage Temperature Range	Tstg	-55 to +175	$^{\circ}$

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)

PARAMETER / CONDITIONS	SYMBOL	Тур	Max	UNIT
Breakdown voltage per diode	V_{BR}	650(minimun)	-	V
Forward Voltage (Note1) IF=5A @TJ=25°	0	1.21	1.36	V
IF=5A @TJ=175°	C V _E	1.40	1.55	
IF=10A @TJ=25°	C VF	1.49	1.62	
IF=10A @TJ=175°		2.00	2.52	
Maximum DC Reverse Current @TJ=25℃	l _R	ţ.	5	uA
at Rated DC Bolcking Voltage	IK	12	uA	
Reverse Recovery Charges(Note 2)	Qc	2	6	nC
Typical Junction Capacitance (Note3)	CJ	399		pF

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	Тур			UNIT
		HCR1065	HCRF1065	HCRB1065	ONIT
Thermal Resistance Per Diode (Note4)	RθJC	3.0	5.5	3.5	°C/W

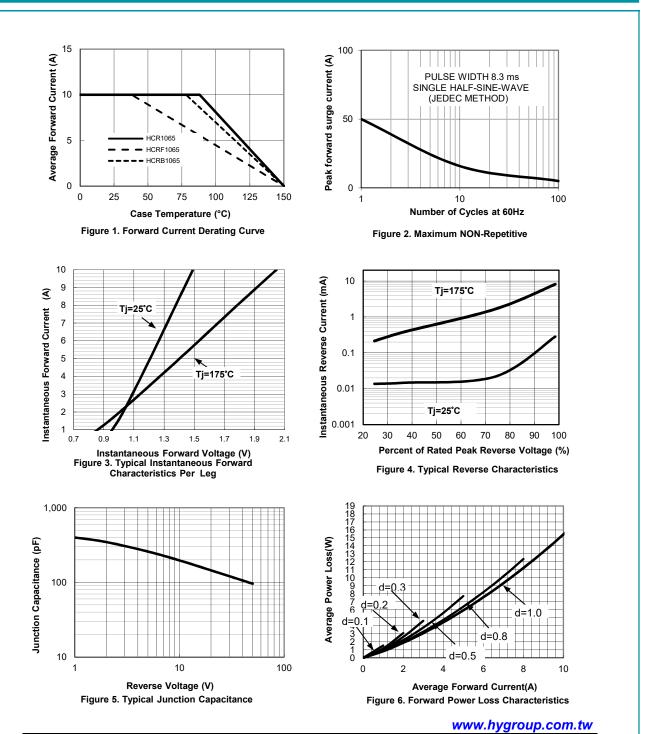
NOTES:1.300us pulse width,2% duty cycle.

- 2.VR=650V, If=8A, di/dt=200A/uS, Tj=25 °C
- 3. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.
- 4. Thermal resistance junction to case.

RATING AND CHARACTERTIC CURVES



Rev.1,25-Mar-2020

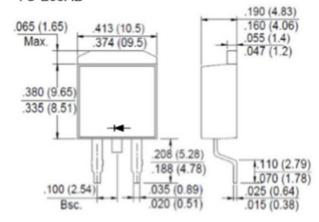


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TO-220AC ITO-220AC .189 (4.8) .173 (4.4) .055 (1.4) .047 (1.2) .138 (3.5) .118 (3.0) .118 (3.0) .102 (2.6) .189 (4.8) .173 (4.4) .135 (3.44) .413 (10.5) .153 (3.9) .406 (10.3) .386 (9.8) .118 (3.0) .270 (6.9) .230 (5.8) .610 (15.5) .583 (14.8) .622 (15.8) .583 (14.8) .04 Max. (1.0) .04 Max. (1.0).157 (4.0) .118 (3.0) .177 3.583 (14.8) (4.5) .531 (13.5) Max. .057 (1.45) .045 (1.14) .114 (2.9) .098 (2.5) .059 (1.5) .043 (1.1) .031 (0.80) .020 (0.50) .105 (2.67) .095 (2.41) .043 (1.10) .551 (14.0) .024 (0.6) .102 (2.6) .091 (2.3) .028 (0.70) -.138 Max.

TO-263AB





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