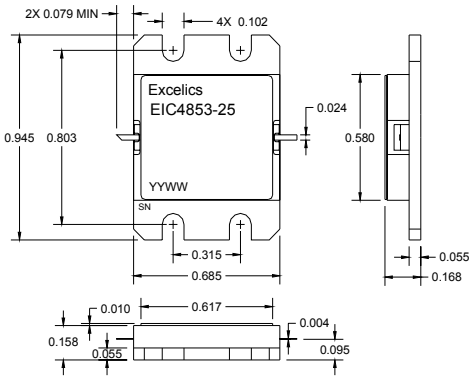
EIC4853-25

4.8-5.30 GHz 25-Watt Internally Matched Power FET

FEATURES

- **4.80 – 5.30GHz Bandwidth**
- **Input/Output Impedance Matched to 50 Ohms**
- **+44.5 dBm Output Power at 1dB Compression**
- **9.5 dB Power Gain at 1dB Compression**
- **36% Power Added Efficiency**
- **Hermetic Metal Flange Package**
- **100% Tested for DC, RF, and R_{TH}**



ELECTRICAL CHARACTERISTICS (T_b = 25°C)

Caution! ESD sensitive device.

SYMBOL	PARAMETERS/TEST CONDITIONS[1]	MIN	TYP	MAX	UNITS
P_{1dB}	Output Power at 1dB Compression f = 4.80-5.30 GHz V_{DS} = 10 V, I_{DSQ} ≈ 6500mA	43.5	44.5		dBm
G_{1dB}	Gain at 1dB Compression f = 4.80-5.30 GHz V_{DS} = 10 V, I_{DSQ} ≈ 6500mA	9	10		dB
ΔG	Gain Flatness f = 4.80-5.30 GHz V_{DS} = 10 V, I_{DSQ} ≈ 6500mA			±0.6	dB
PAE	Power Added Efficiency at 1dB Compression V_{DS} = 10 V, I_{DSQ} ≈ 6500mA f = 4.80-5.30 GHz		36		%
Id_{1dB}	Drain Current at 1dB Compression f = 4.80-5.30 GHz		7050	8300	mA
I_{DSS}	Saturated Drain Current V_{DS} = 3 V, V_{GS} = 0 V		11	16	A
V_P	Pinch-off Voltage V_{DS} = 3 V, I_{DS} = 130 mA		-2.5	-4.0	V
R_{TH}	Thermal Resistance[2]		1.4	1.8	°C/W

1. Tested with 15 Ohm gate resistor, forward and reverse gate current should not exceed 130mA and -10.5mA respectively
2. Overall Rth depends on case mounting.

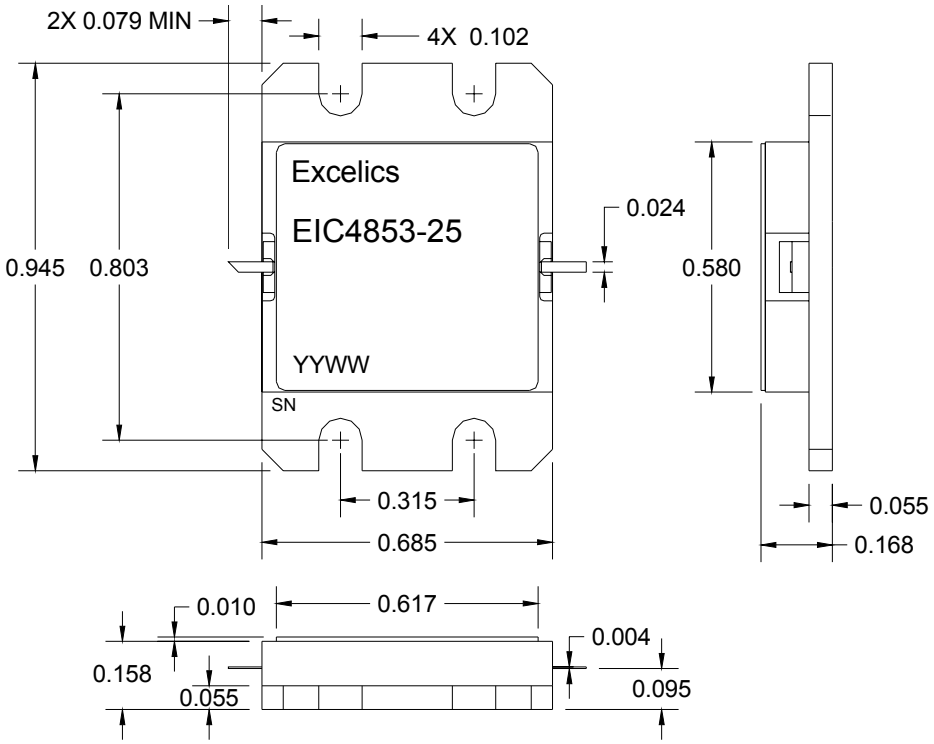
MAXIMUM RATING AT T_b = 25°C[1,2]

SYMBOLS	PARAMETERS	ABSOLUTE[1]	OPERATING[2]
Vds	Drain-Source Voltage	15	10V
Vgs	Gate-Source Voltage	-5	-4V
Pin	Input Power	38 dBm	@ 3dB Compression
Tch	Channel Temperature	175 °C	175 °C
Tstg	Storage Temperature	-65 to +175 °C	-65 to +175 °C
Pt	Total Power Dissipation	83W	83W

Note: 1. Operating the device beyond the absolute maximum rating may cause permanent damage.
2. Operating beyond the absolute maximum ratings may reduce MTTF of the device.

PACKAGE OUTLINE

Dimensions in inches, Tolerance ± .005 unless otherwise specified



DISCLAIMER

EXCELICS SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. EXCELICS DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN.

LIFE SUPPORT POLICY

EXCELICS SEMICONDUCTOR PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF EXCELICS SEMICONDUCTOR, INC.

AS HERE IN:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, or (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.