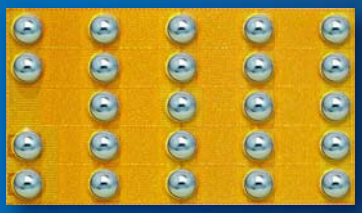
EFFICIENT POWER CONVERSION

eGaN® FET ESD Report
EPC2033

EAG Laboratories Report #: W070529H



Die size: 4.6 mm x 2.6 mm

The following report provides the results of Electrostatic Discharge (ESD) Sensitivity testing for the **EPC2033**.

EPC2033 was tested for ESD sensitivity using both the human body model (HBM) and charged device model (CDM).

HBM = 2000 V, class 2

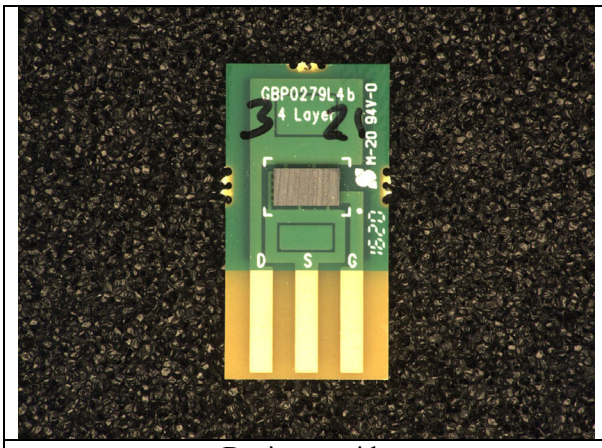
CDM = 1000 V, class C3

ESD HBM SENSITIVITY TEST REPORT

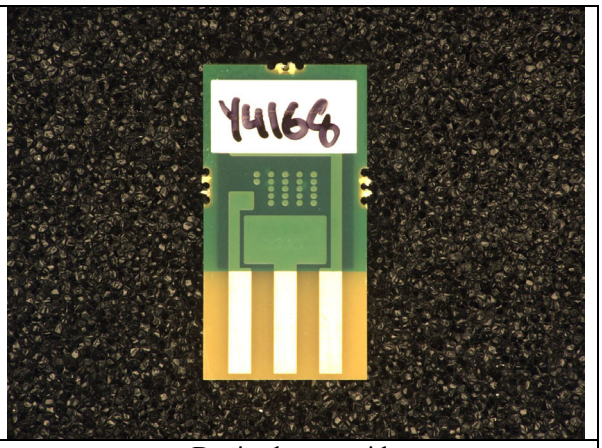
Customer :	Efficient Power Conversion Co.	**Date:**	8/1/18
Address :	909 North Sepulveda Blvd, Suite 230 El Segundo, Californina 90245		
Requester :	Shengke Zhang	**JIVA job #:**	M0JAA628
Report by :	Scott Pearson	**Checked by:**	José Nájera

Manufacturer :	Efficient Power Con. Co.	**Marking Line 1:**	2033
Part Number :	EPC2033	**Marking Line 2:**	7615
Quantity Tested :	30	**Marking Line 3:**	5601
Package Type :	3 pin FET on coupon	**Marking Line 4:**	•

DEVICE IMAGES



Device top side



Device bottom side

Test Method : Human Body Model (JS-001-2014, Table 2B)
Scope : Engineering Evaluation
Equipment ID : Thermo Mk.2 - 4
DUT Board ID : 289 Zif / EPC edge connector
Test Program(s) : EPC2033_HBM

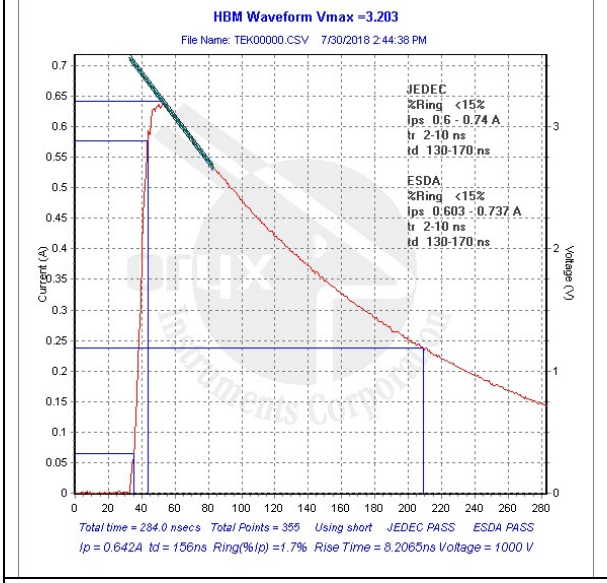
# of Stresses : One pulse, of prescribed polarity, for each pin combination
Stress Interval : 300 milliseconds
Pin Combinations : All, as per the specified test method

Parametric Results Summary

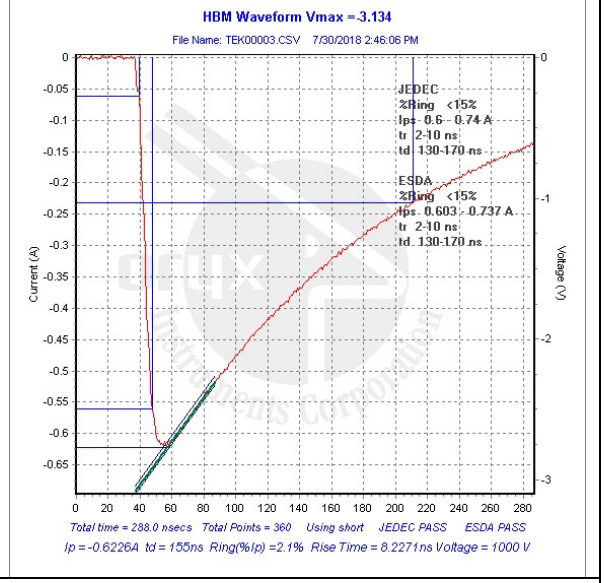
The sampling plan was specified by the customer.

Serial Number	Test Type	Stress Voltage	IV Result	ATE Result	Comment
1-10	Full Test	±1000V	N/A, Level 1	Pass	Stressed to all configurations, Level 1
11-20	Full Test	±2000V	N/A, Level 1	Pass	Stressed to all configurations, Level 1
21-30	Full Test	±4000V	N/A, Level 1	Fail	Stressed to all configurations, Level 1

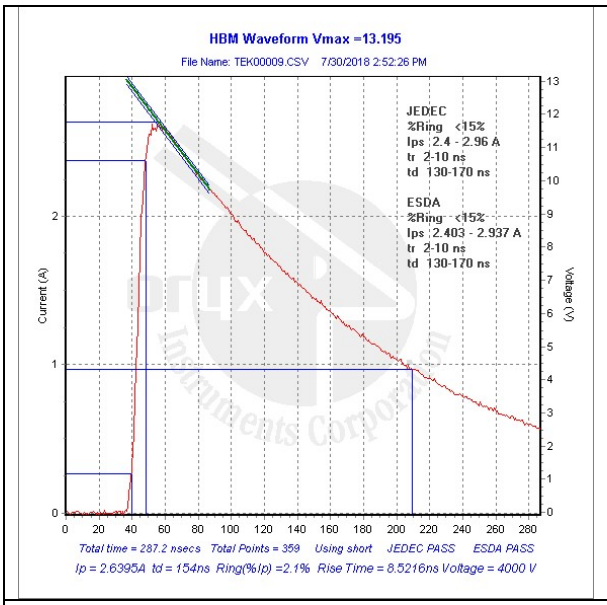
Waveform Verification



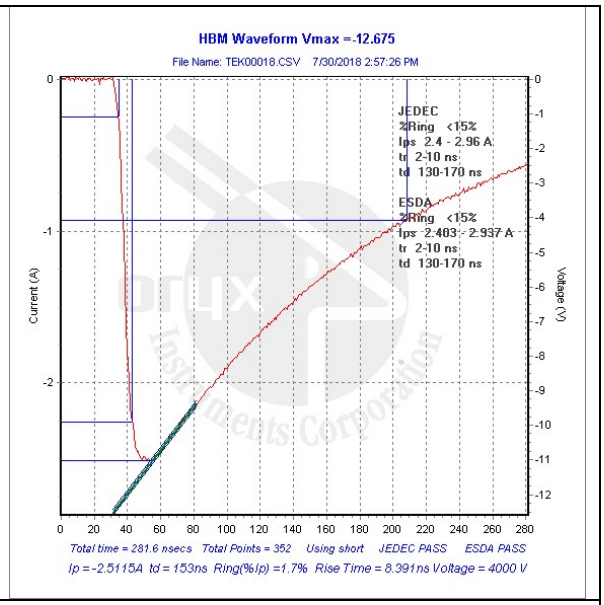
+1000V waveform



-1000V waveform



+4000V waveform



-4000V waveform

Machine operation was verified to meet the test specification by measuring the waveforms shown above. Waveforms were measured through a short circuit using a Tektronix CT-1 current probe, a Tektronix 10X attenuator, and a Tektronix TDS3052 oscilloscope, Asset no. 4009.1. Manufacturer supplied EvaluWave software was used to determine if the waveforms meet specifications.

Curve Trace Conditions

Curve Trace Group	Curve Trace Ground Group(s)	Acceptance Criteria	Sweep Current or Voltage	Limit Voltage or Current

Curve trace results are qualitative and provided for customer engineering use only.

N/A, Level 1.

IV Curve Trace Failure Summary

Serial Number	Voltage	Test Type	Failing Pin	Signal Name	ESD Group	Pin type	CT Ground	Failure Description	ATE Coverage?

N/A, Level 1.

Device Pin-List and Test Groups

Pin	Signal Name	ESD Group	Pin type
1	Gate	Gate	Power
2	Source	Source	Power
3	Drain	Drain	Power

Pin Combinations

Test Configuration	Pin Under Test (terminal A)	Stressed with Respect to (terminal B)
1	Non-Gate Pin(s), Individually	Gate Group
2	Non-Source Pin(s), Individually	Source Group
3	Non-Drain Pin(s), Individually	Drain Group

ATE TEST RESULTS

To pass classification, all test units must meet applicable part drawing parametric and functional test specifications.

(Insert ATE results here.)

CLASSIFICATION CRITERIA

All samples used must meet the test requirements up to a particular voltage level in order for the part to be classified as meeting a particular sensitivity classification.

JESD22-A114 Classes

Component Classification	Maximum Withstand Voltage
Class 0	<250V
Class 1A	≥250V to <500V
Class 1B	≥500V to <1000V
Class 1C	≥1000V to <2000V
Class 2	≥2000V to <4000V
Class 3A	≥4000V to <8000V
Class 3B	8000V

JS-001-2014 Classes

Component Classification	Maximum Withstand Voltage
Class 0A	<125V
Class 0B	125V to <250V
Class 1A	250V to <500V
Class 1B	500V to <1000V
Class 1C	1000V to <2000V
Class 2	2000V to <4000V
Class 3A	4000V to <8000V
Class 3B	≥8000V

This test is ISO/IEC 17025:2005 accredited and meets the requirements of the Test Method referenced on the Cover Sheet, as verified by the ANSI-ASQ National Accreditation Board/ANAB or FQS. Refer to certificate and scope of accreditation AT-1663 for details.