



**Reliability Report  
(Q2017-002)**

**CPC1705Y Product Qualification  
Single Pole, Normally Closed 4-Pin OptoMOS  
DC Power Relay Using New PV  
(SKS10PV21A60) and New Depletion MOSFET  
(SKS100607D60)**

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### Summary

The CPC1705Y product has successfully passed IXYS ICD's requirements for product qualification.

**Table 1: Device Information**

Product Number	CPC1705Y
Package Type	4 Pin Power SIP
Assembly Site	Atec, Laguna, Philippines
Test Site	IXYS ICD BEV, Beverly, MA, USA

**Table 2: Reliability Test Result**

Stress Test	Stress Conditions	Applicable Specs	Product/Package	Sample Size (SS)	# of Failures
HTRB	125°C, 80% WVDC, 1000 hrs	Mil-Std-883 M1005 JESD22-A-108	CPC1705Y TE3572-6	72	0
			CPC1705Y TE3572	105	0
UHAST	130C,85%, 18.8psi,96hrs No Bias	JESD22-A110-C	CPC1705Y TE3572	28	0
			CPC1705Y TE3605	77	0
			CPC1705Y TE3618	77	0
Temperature Cycle	-55 to 125°C, 10/10 dwells, 300 cycles	Mil-Std-883, M1010, "B"	CPC1705Y TE3572	55	0
			CPC1705Y TE3605	55	0
			CPC1705Y TE3618	55	0

Stress Test	Stress Conditions	Applicable Specs	Product/Package	Sample Size (SS)	# of Failures
Hot Storage	125C, 1000 hrs	JESD22-A103-C	CPC1705Y TE3572	50	0
			CPC1705Y TE3605	50	0
			CPC1705Y TE3618	50	0
MSL	IR Reflow, Level 1	J-STD-020D.1	CPC1705Y TE3572	25	0
			CPC1705Y TE3605	25	0
			CPC1705Y TE3618	25	0

**Table 3: ESD Results**

Stress Test	Stress Conditions	Applicable Specs	Product/Package	Highest Passed	Class
HBM	All Pins, 1.5kΩ, 100pF	JESD22- A114-E	CPC1705Y TE3605	+/-8000V	3B

**Table 4: FIT Rate Summary**

Qual Lot #	Stress Test	# of Devices	# of Fail	Hours Tested	Equivalent Dev. Hours	FIT Rate @ 60% CL
1	HTRB	177	0	1000	45,206,856	20.35*
1	HAST	182	0	96	25,016,158	36.78**

\* HTRB FIT Rate was calculated based on the Acceleration Factor (AF) and equivalent device hours at 0.7eV of activation energy at 125°C test temperature and 40°C use temperature.

\*\*HAST FIT Rate was calculated based on the Acceleration Factor (AF) and equivalent device hours at 0.7eV of activation energy at 125°C test temperature and 40°C use temperature.

**Approvals**

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