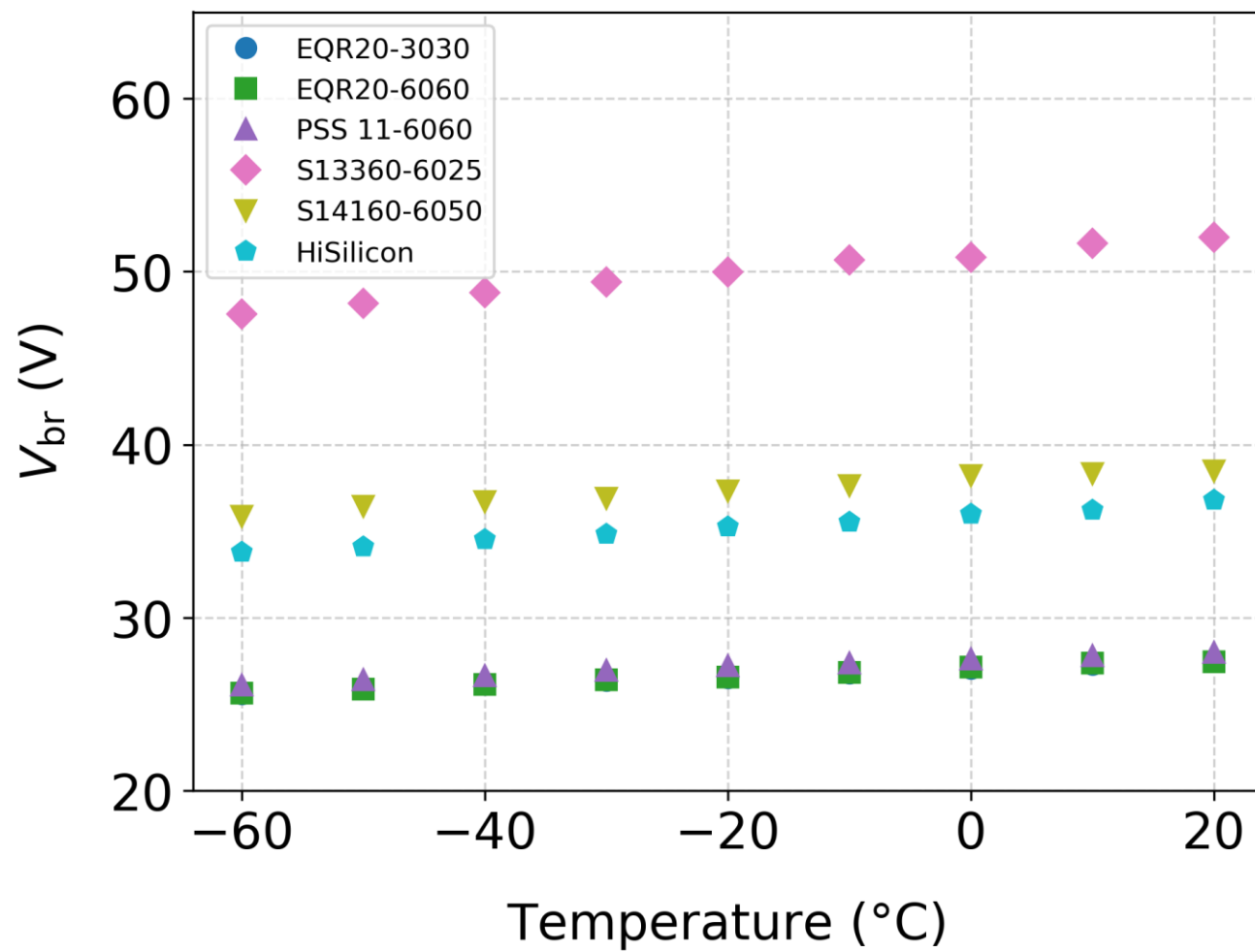


# SiPM Low Temperature Tests

2026.04.24

# 1. 击穿电压



## 2. DCR

- 测试电压：推荐工作电压
- 测试温度：-60 至 20 摄氏度，步长10摄氏度

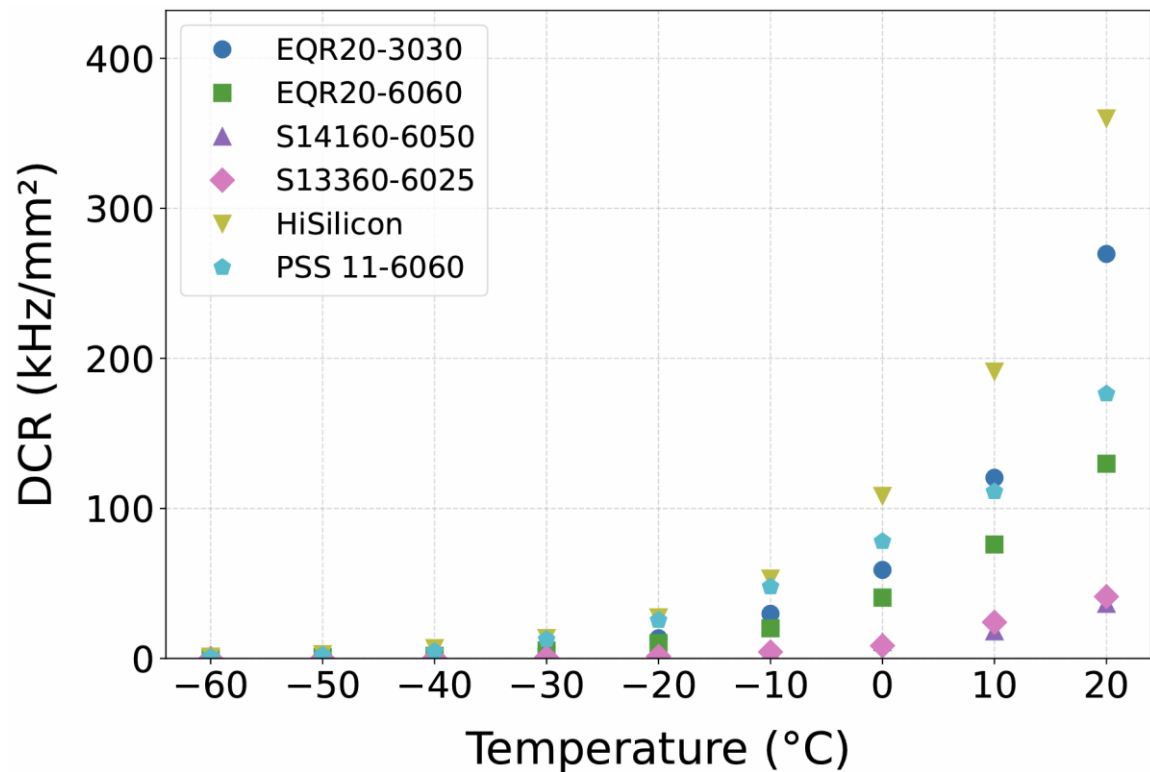
		$V_{ov}$ under test (V)	$V_{ov}$ from datasheet (V)
NDL	EQR20-3030	5	5
	EQR20-6060*	2.7	5
	PSS 11-6060	5	5
Huawei	HiSilicon	10	10
Hamamatsu	S13360-6025*	10	5
	S14160-6050	2.7	2.7
SensL	MICROFJ-40035	3.77	1-6

\* EQR20-6060击穿电压为29.3V, 测试电压为32V

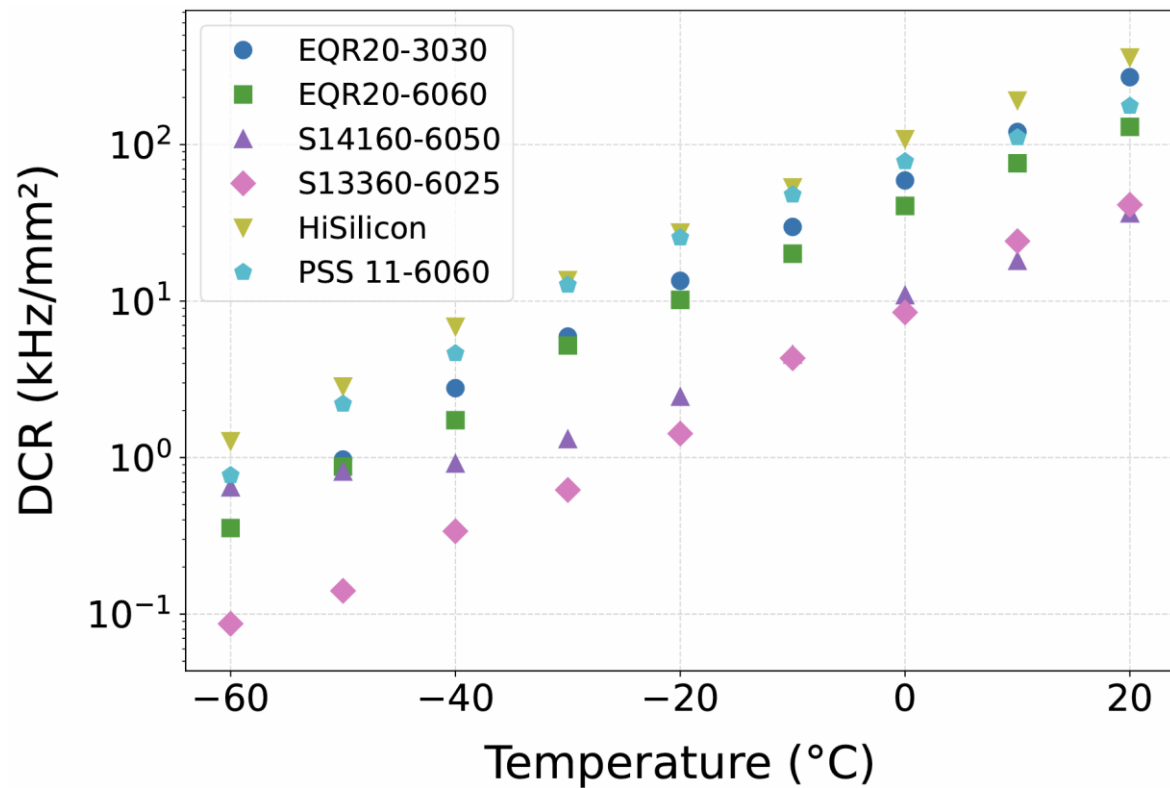
\* S13360-6025击穿电压为52V, 测试电压为62V

## 2. DCR

线性坐标

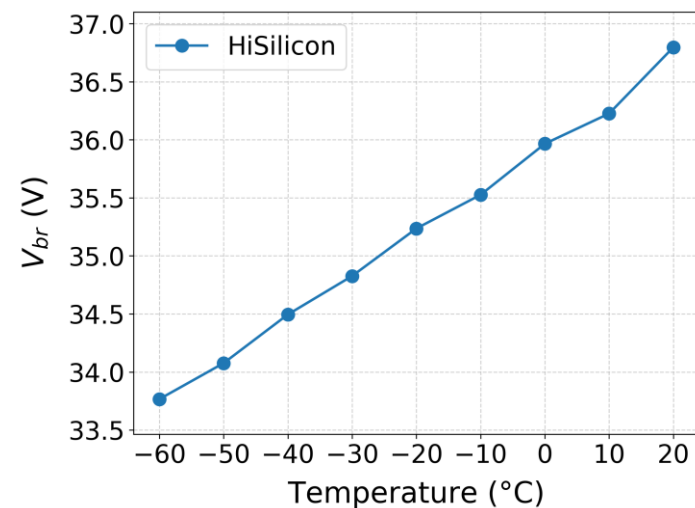
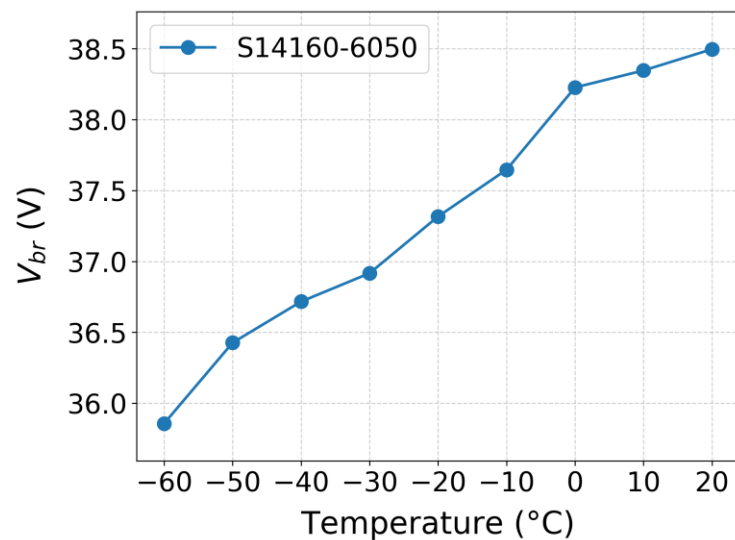
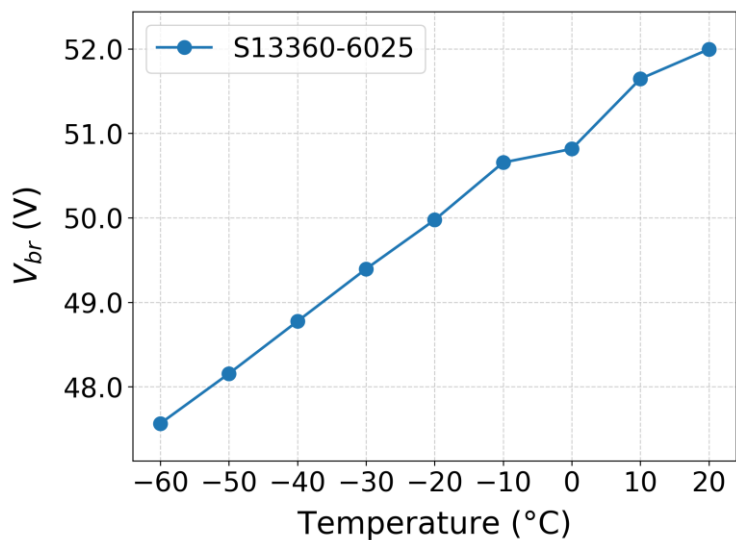
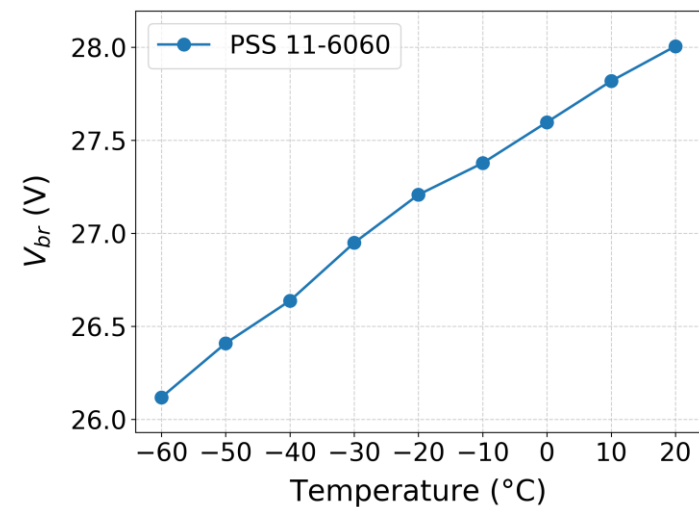
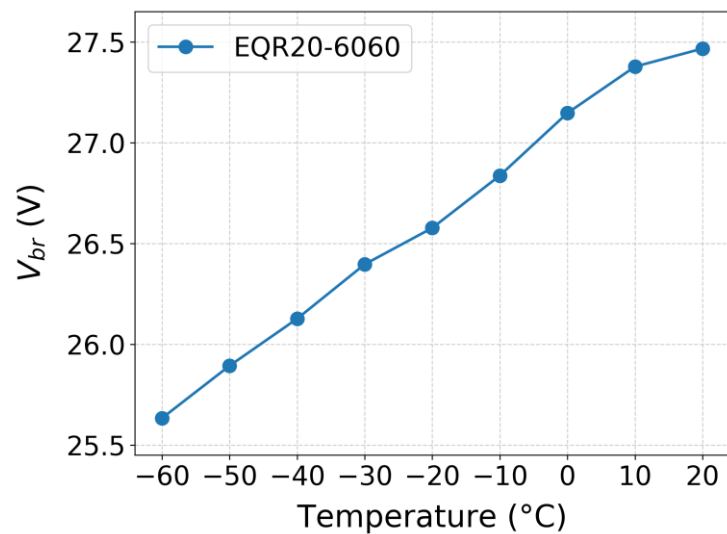
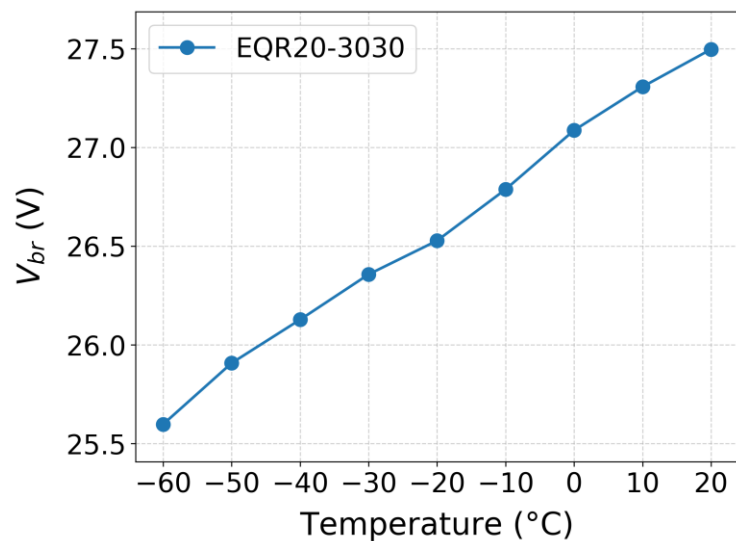


对数坐标



Backup

# 击穿电压



## EQR20-3030

model	temperature	darkrate_kHz_per_mm2	CH1	CH2	CH3	SUM
EQR20-3030	-50.000000	0.972222	1.111111	0.694444		1.111111
EQR20-3030	-40.000000	2.777778	2.777778	2.861111		2.694444
EQR20-3030	-30.000000	5.935185	5.444444	5.277778		7.083333
EQR20-3030	-20.000000	13.481481	14.083333	12.111111		14.250000
EQR20-3030	-10.000000	29.777778	29.666667	25.944444		33.722222
EQR20-3030	0.000000	59.000000	61.222222	49.777778		66.000000
EQR20-3030	10.000000	120.425926	117.388889	107.388889		136.500000
EQR20-3030	20.000000	269.574074	272.666667	236.722222		299.333333

## EQR20-6060

model	temperature	darkrate_kHz_per_mm2	CH1	CH2	CH3	SUM
EQR20-6060	-60.000000	0.354913	0.358480	0.428035		0.278223
EQR20-6060	-50.000000	0.877472	0.939002	0.858746		0.834669
EQR20-6060	-40.000000	1.733543	2.375596	1.412516		1.412516
EQR20-6060	-30.000000	5.200629	6.163708	4.077036		5.361142
EQR20-6060	-20.000000	10.187240	10.561771	9.566589		10.433360
EQR20-6060	-10.000000	20.096257	20.770412	18.523227		20.995131
EQR20-6060	0.000000	40.556343	40.641950	36.340196		44.686884
EQR20-6060	10.000000	75.976263	74.734961	71.043156		82.150672
EQR20-6060	20.000000	129.748196	134.638499	116.757325		137.848763

## S14160-6050

model	temperature	darkrate_kHz_per_mm2	CH1	CH2	CH3	SUM
S14160-6050	-60.000000	0.646219	0.810185	0.688657	0.439815	
S14160-6050	-50.000000	0.814815	1.062500	0.819444	0.562500	
S14160-6050	-40.000000	0.917245	1.137153	0.911458	0.703125	
S14160-6050	-30.000000	1.313658	1.527778	1.276042	1.137153	
S14160-6050	-20.000000	2.447917	2.777778	2.413194	2.152778	
S14160-6050	-10.000000	4.560185	5.694444	4.201389	3.784722	
S14160-6050	0.000000	10.902778	13.402778	10.138889	9.166667	
S14160-6050	10.000000	18.078703	22.083333	16.631944	15.520833	
S14160-6050	20.000000	36.377315	42.083333	34.756944	32.291667	

## S13360-6025

model	temperature	darkrate_kHz_per_mm2	CH1	CH2	CH3	SUM
S13360-6025	-60.000000	0.086806	0.117188	0.065104	0.078125	
S13360-6025	-50.000000	0.140818	0.156250	0.156250	0.109954	
S13360-6025	-40.000000	0.338542	0.442708	0.321181	0.251736	
S13360-6025	-30.000000	0.621142	0.706019	0.601852	0.555556	
S13360-6025	-20.000000	1.423611	1.597222	1.111111	1.562500	
S13360-6025	-10.000000	4.317130	4.201389	5.104167	3.645833	
S13360-6025	0.000000	8.472222	7.951389	8.576389	8.888889	
S13360-6025	10.000000	24.155092	22.395833	24.097222	25.972222	
S13360-6025	20.000000	41.226852	40.555556	41.597222	41.527778	

# DCR

## HiSilicon

model	temperature	darkrate_kHz_per_mm2	CH1	CH2	CH3	SUM
HiSilicon	-60.000000	1.273421	1.181028	1.048464		1.590772
HiSilicon	-50.000000	2.844108	2.795903	2.482569		3.253853
HiSilicon	-40.000000	6.857193	6.073858	6.218474		8.279247
HiSilicon	-30.000000	13.617976	13.955412	12.726179		14.172336
HiSilicon	-20.000000	27.404669	28.416979	26.464667		27.332362
HiSilicon	-10.000000	53.266771	52.784719	52.495488		54.520107
HiSilicon	0.000000	108.317137	106.509441	106.003286		112.438683
HiSilicon	10.000000	191.157812	184.095747	185.541904		203.835786
HiSilicon	20.000000	359.876093	360.599172	358.646860		360.382248

## PSS 11-6060

model	temperature	darkrate_kHz_per_mm2	CH1	CH2	CH3	SUM
PSS 11-6060	-60.000000	0.770464		0.770464		
PSS 11-6060	-50.000000	2.202242		2.202242		
PSS 11-6060	-40.000000	4.629202		4.629202		
PSS 11-6060	-30.000000	12.674125		12.674125		
PSS 11-6060	-20.000000	25.425296		25.425296		
PSS 11-6060	-10.000000	47.781579		47.781579		
PSS 11-6060	0.000000	77.983748		77.983748		
PSS 11-6060	10.000000	111.177885		111.177885		
PSS 11-6060	20.000000	176.359098		176.359098		