

ESD / MSL Classification Level

ANSI/ESDA/JEDEC JS-001

Human Body Model ESD Device Classification Levels

HBM Classification	Voltage Range (in Volts)
0Z	< 50
0A	50 to < 125
0B	125 to < 250
1A	250 to < 500
1B	500 to < 1000
1C	1000 to < 2000
2	2000 to < 4000
3A	4000 to < 8000
3B	≥ 8000

ANSI/ESDA/JEDEC JS-002

Charged Device Model ESD Device Classification Levels

CDM Classification	Voltage Range (in Volts)
C0a	< 125
C0b	125 to < 250
C1	250 to < 500
C2a	500 to < 750
C2b	750 to < 1000
C3	≥ 1000

EIA/IPC/JEDEC J-STD-020

Moisture Sensitivity Classification Levels

MSL Level	Floor Life		Standard Soak Requirements	
	Time	Condition	Time (hours)	Condition
1	Unlimited	≤30°C/85%RH	168 (-0/+5)	85°C/85%RH
2	1 year	≤30°C/60%RH	168 (-0/+5)	85°C/60%RH
2a	4 weeks	≤30°C/60%RH	696 (-0/+5)	30°C/60%RH
3	168 hours	≤30°C/60%RH	192 (-0/+5)	30°C/60%RH
4	72 hours	≤30°C/60%RH	96 (-0/+5)	30°C/60%RH
5	48 hours	≤30°C/60%RH	72 (-0/+5)	30°C/60%RH
5a	24 hours	≤30°C/60%RH	48 (-0/+5)	30°C/60%RH
6	Time on Label	≤30°C/60%RH	Time on Label	30°C/60%RH



ESD / MSL Classification Level

X'TAL

Product Series	JS-001 HBM	JS-002 CDM	J-STD-020 MSL
7A	Class 2	-	Level 1
7B	Class 3A	-	Level 1
7M	Class 3A	-	Level 1
7R	Class 3A	-	Level 1
7S	Class 2	-	Level 1
7V	Class 2	-	Level 1
8A	Class 2	-	Level 1
8J	Class 2	-	Level 1
8Q	Class 3A	-	Level 1
8Y	Class 3A	-	Level 1
8Z	Class 3A	-	Level 1
9Q	Class 3A	-	Level 1
AA	Class 2	-	Level 1
AB	Class 2	-	Level 1
AH	Class 3A	-	Level 1
AM	Class 2	-	Level 1
AR	Class 2	-	Level 1
AT	Class 2	-	Level 1
AV	Class 2	-	Level 1
AX	Class 2	-	Level 1
AY	Class 3A	-	Level 1
AZ	Class 2	-	Level 1
DX	Class 1B	-	Level 1



ESD / MSL Classification Level

TSX

Product Series	JS-001 HBM	JS-002 CDM	J-STD-020 MSL
AG	Class 2	-	Level 1
AF	Class 2	-	Level 1
OW	Class 2	-	Level 1
OY	Class 3A	-	Level 1
OZ	Class 2	-	Level 1



ESD / MSL Classification Level

TF

Product Series	JS-001 HBM	JS-002 CDM	J-STD-020 MSL
9H T10	Class 3A	-	Level 1

ESD / MSL Classification Level

XO

Product Series	JS-001 HBM	JS-002 CDM	J-STD-020 MSL
7C	Class 3A	Class C2b	Level 1
7W	Class 3A	Class C3	Level 1
7X	Class 3A	Class C2b	Level 1
7XZ	Class 2	Class C2a	Level 1
8N	Class 2	Class C2b	Level 1
8R	Class 3A	Class C1	Level 1
8W	Class 3A	Class C2b	Level 1
A5	Class 2	Class C2b	Level 1
AC	Class 2	Class C2b	Level 1
ACZ	Class 2	Class C2a	Level 1
AN	Class 2	Class C2b	Level 1
AU	Class 2	Class C2b	Level 1
AUZ	Class 3A	Class C2b	Level 1
AW	Class 3A	Class C2a	Level 1
BA	Class 2	Class C2a	Level 1
BB	Class 2	Class C2a	Level 1
BC	Class 2	Class C2a	Level 1
BE	Class 2	Class C2a	Level 1
BF	Class 3A	Class C3	Level 1
BG	Class 2	Class C2a	Level 1
BX	Class 2	Class C2a	Level 1
CA	Class 2	Class C2a	Level 1
CB	Class 2	Class C2a	Level 1
CE	Class 2	Class C2a	Level 1
CF	Class 2	Class C2b	Level 1
CU	Class 2	Class C2b	Level 1
DA	Class 2	Class C3	Level 1
DB	Class 3A	Class C3	Level 1
DE	Class 3A	Class C2b	Level 1
DF	Class 3A	Class C3	Level 1
DH	Class 2	Class C3	Level 1
EB	Class 3A	Class C3	Level 1



ESD / MSL Classification Level

VCXO

Product Series	JS-001 HBM	JS-002 CDM	J-STD-020 MSL
6U	Class 2	Class C2b	Level 1
BJ	Class 3A	Class C2a	Level 1
BK	Class 2	Class C2a	Level 1
BN	Class 3A	Class C2a	Level 1
BR	Class 3A	Class C3	Level 1
CJ	Class 2	Class C3	Level 1
CR	Class 2	Class C2a	Level 1
DR	Class 2	Class C2b	Level 1



ESD / MSL Classification Level

TCXO

Product Series	JS-001 HBM	JS-002 CDM	J-STD-020 MSL
7L	Class 2	Class C2a	Level 1
7N	Class 3A	Class C2a	Level 1
7P	Class 2	Class C2a	Level 1
7Q	Class 3A	Class C2a	Level 1
7Z	Class 3A	Class C2b	Level 1
8P	Class 3A	Class C1	Level 1
8S	Class 2	Class C1	Level 1
AK	Class 3A	Class C2b	Level 1
AL	Class 3A	Class C2b	Level 1
AQ	Class 2	Class C2b	Level 1



ESD / MSL Classification Level

OCXO

Product Series	JS-001 HBM	JS-002 CDM	J-STD-020 MSL
OB	Class 3A	Class C2a	Level 2
OG	Class 3A	Class C2b	Level 2