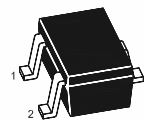
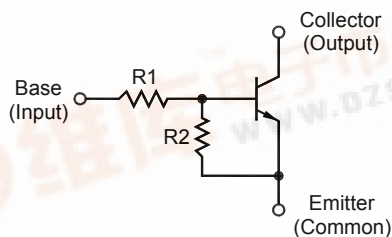


MMDT5210W...MMDT521ZW

[查询"MMDT5210W"供应商](#)

NPN Silicon Epitaxial Planar Digital Transistor



1.Base 2.Emitter 3.Collector
SOT-323 Plastic Package

Resistance Values

Type	R1 (KΩ)	R2 (KΩ)	Type	R1 (KΩ)	R2 (KΩ)
MMDT5210W	47	-	MMDT521DW	47	10
MMDT5211W	10	10	MMDT521EW	47	22
MMDT5212W	22	22	MMDT521FW	4.7	10
MMDT5213W	47	47	MMDT521KW	10	4.7
MMDT5214W	10	47	MMDT521LW	4.7	4.7
MMDT5215W	10	-	MMDT521MW	2.2	47
MMDT5216W	4.7	-	MMDT521NW	4.7	47
MMDT5217W	22	-	MMDT521TW	22	47
MMDT5218W	0.51	5.1	MMDT521VW	2.2	2.2
MMDT5219W	1	10	MMDT521ZW	4.7	22

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	50	V
Collector Emitter Voltage	V_{CEO}	50	V
Collector Current	I_C	100	mA
Total Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

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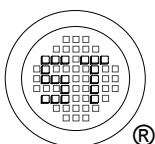
MMDT5210W...MMDT521ZW

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Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$					
MMDT5218/521K/521L/521VW	h_{FE}	20	-	-	-
MMDT5219/521D/521FW		30	-	-	-
MMDT5211W		35	-	-	-
MMDT5212/521EW		60	-	-	-
MMDT521ZW		60	-	200	-
MMDT5213/5214/521MW		80	-	-	-
MMDT521N/521TW		80	-	400	-
MMDT5210/5215/5216/5217W ¹⁾		160	-	460	-
Collector Base Cutoff Current at $V_{CB} = 50\text{ V}$	I_{CBO}	-	-	100	nA
Emitter Base Cutoff Current at $V_{EB} = 6\text{ V}$					
MMDT5210/5215/5216/5217W	I_{EBO}	-	-	0.01	mA
MMDT5213W		-	-	0.1	
MMDT5212/5214/521D/521E/521M/521N/521TW		-	-	0.2	
MMDT521ZW		-	-	0.4	
MMDT5211W		-	-	0.5	
MMDT521F/521KW		-	-	1	
MMDT5219W		-	-	1.5	
MMDT5218/521L/521VW		-	-	2	
Collector Base Breakdown Voltage at $I_C = 10\text{ }\mu\text{A}$	$V_{(BR)CBO}$	50	-	-	V
Collector Emitter Breakdown Voltage at $I_C = 2\text{ mA}$	$V_{(BR)CEO}$	50	-	-	V
Collector Emitter Saturation Voltage at $I_C = 10\text{ mA}$, $I_B = 0.5\text{ mA}$	V_{CEsat}	-	-	0.3	V
Transition Frequency at $V_{CB} = 10\text{ V}$, $-I_E = 5\text{ mA}$, $f = 100\text{ MHz}$	f_T	-	250	-	MHz
Input Voltage (ON)					
at $V_O = 0.3\text{ V}$, $I_O = 20\text{ mA}$	$V_{I(ON)}$	-	-	3	V
at $V_O = 0.3\text{ V}$, $I_O = 20\text{ mA}$		-	-	2.5	
at $V_O = 0.3\text{ V}$, $I_O = 2\text{ mA}$		-	-	2.5	
at $V_O = 0.3\text{ V}$, $I_O = 2\text{ mA}$		-	-	5	
at $V_O = 0.3\text{ V}$, $I_O = 2\text{ mA}$		-	-	4	
at $V_O = 0.3\text{ V}$, $I_O = 10\text{ mA}$		-	-	3	
at $V_O = 0.2\text{ V}$, $I_O = 5\text{ mA}$		-	-	3	
at $V_O = 0.3\text{ V}$, $I_O = 2\text{ mA}$		-	-	3	
at $V_O = 0.3\text{ V}$, $I_O = 5\text{ mA}$		-	-	1.1	
at $V_O = 0.2\text{ V}$, $I_O = 5\text{ mA}$		-	-	1.7	
at $V_O = 0.3\text{ V}$, $I_O = 5\text{ mA}$		-	-	1.3	
at $V_O = 0.3\text{ V}$, $I_O = 1\text{ mA}$		-	-	1.4	
MMDT521V/521L/5219/5218W		-	-	-	
MMDT521FW		-	-	-	
MMDT521TW		-	-	-	

¹⁾ h_{FE} Rank Classification: Q: 160~260, R: 210~340, S: 290~460, No-rank: 160~460



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ISO 9001 : 2008
Certificate No. 0506098



ISO 14001 : 2004
Certificate No. 7116



ISO 9001 : 2008
Certificate No. 0506098



BS-OHSAS 18001 : 2007
Certificate No. 7116



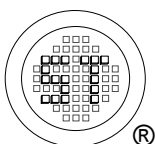
IECQ QC 080000
Certificate No. PCC-0800-0801

MMDT5210W...MMDT521ZW

[查询"MMDT5210W"供应商](#)

Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
Input Voltage (OFF) at $V_{CC} = 5\text{ V}$, $I_o = 100\text{ }\mu\text{A}$	$V_{I(\text{OFF})}$	0.5	-	-	V
MMDT521V/521L/5211/5212/5213W		0.5	-	-	
MMDT5218/5219/521M/521Z/521NW		0.3	-	-	
MMDT521F/5214W		0.4	-	-	
MMDT521TW		1	-	-	
MMDT521DW		0.8	-	-	
MMDT521K/521EW					
Input Resistance	R1	- 30%	0.51	+ 30%	K Ω
MMDT5218W			1		
MMDT5219W			2.2		
MMDT521M/521V			4.7		
MMDT5216/521F/521L/521N/521ZW			10		
MMDT5211/5214/5215/521KW			22		
MMDT5212/5217/521TW			47		
MMDT5210/5213/521D/521EW					
Resistance Ratio	R1/R2	-	0.047	-	-
MMDT521MW		-	0.1	-	-
MMDT521NW		0.08	0.1	0.12	-
MMDT5218/5219W		-	0.21	-	-
MMDT521ZW		0.17	0.21	0.25	-
MMDT5214W		-	0.47	-	-
MMDT521TW		0.37	0.47	0.57	-
MMDT521FW		-	1	-	-
MMDT521VW		0.8	1	1.2	-
MMDT5211/5212/5213/521LW		1.7	2.13	2.6	-
MMDT521KW		1.7	2.14	2.6	-
MMDT521EW		3.7	4.7	5.7	-
MMDT521DW					



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ISO/TS 16949 : 2002
Certificate No. 05103



ISO 14001 : 2004
Certificate No. 7116



ISO 9001 : 2008
Certificate No. 050808



BS-OHSAS 18001:2007
Certificate No. 7116



IECQ QC 080000
Certificate No. PIC-0800-0801