

## MMDT3052DW ( NPN+NPN) Silicon Epitaxial Planar Transistor

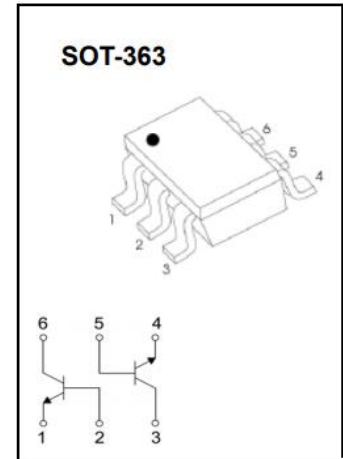
### Features

- Each transistor elements are independent

### Applications

- For low frequency amplify application

### MARKING: 5G



Parameter	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	50	V
Collector Emitter Voltage	$V_{CEO}$	50	V
Emitter Base Voltage	$V_{EBO}$	6	V
Collector Current	$I_C$	200	mA
Power Dissipation	$P_{tot}$	150	mW
Junction Temperature	$T_j$	125	°C
Storage Temperature Range	$T_{stg}$	- 55 to + 125	°C

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

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 6\text{ V}$ , $I_C = 0.1\text{ mA}$ at $V_{CE} = 6\text{ V}$ , $I_C = 1\text{ mA}$	E	$h_{FE}$	90	-	-
	F	$h_{FE}$	120	-	240
	G	$h_{FE}$	200	-	400
		$h_{FE}$	350	-	700
Collector Base Cutoff Current at $V_{CB} = 50\text{ V}$	$I_{CBO}$	-	-	100	nA
Emitter Base Cutoff Current at $V_{EB} = 6\text{ V}$	$I_{EBO}$	-	-	100	nA
Collector Emitter Breakdown Voltage at $I_C = 100\ \mu\text{A}$	$V_{(BR)CEO}$	50	-	-	V
Collector Emitter Saturation Voltage at $I_C = 100\text{ mA}$ , $I_B = 10\text{ mA}$	$V_{CE(sat)}$	-	-	0.3	V
Transition Frequency at $V_{CE} = 6\text{ V}$ , $-I_E = 10\text{ mA}$	$f_T$	-	200	-	MHz
Collector Output Capacitance at $V_{CB} = 6\text{ V}$ , $f = 1\text{ MHz}$	$C_{ob}$	-	2.5	-	pF

## Electrical Characteristics Curves

Fig 1. Transition Frequency vs Emitter Current

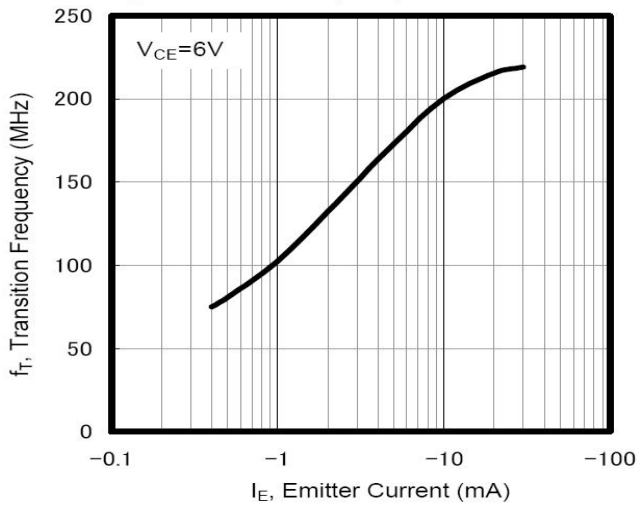


Fig 2. Common Emitter Transfer

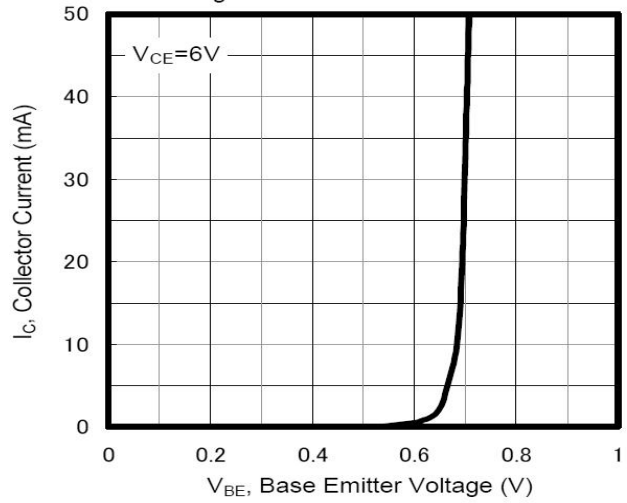


Fig 3. Common Emitter Output

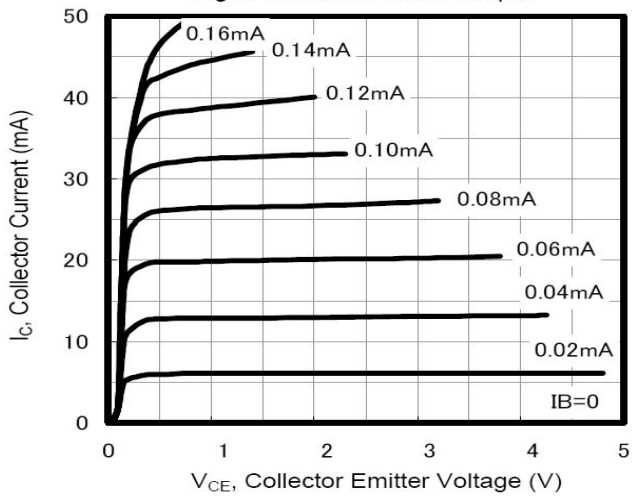


Fig 4. DC Current Gain vs Collector Current

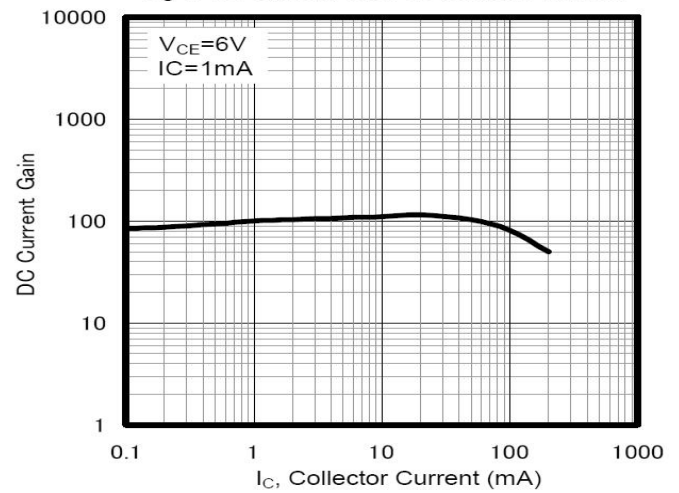
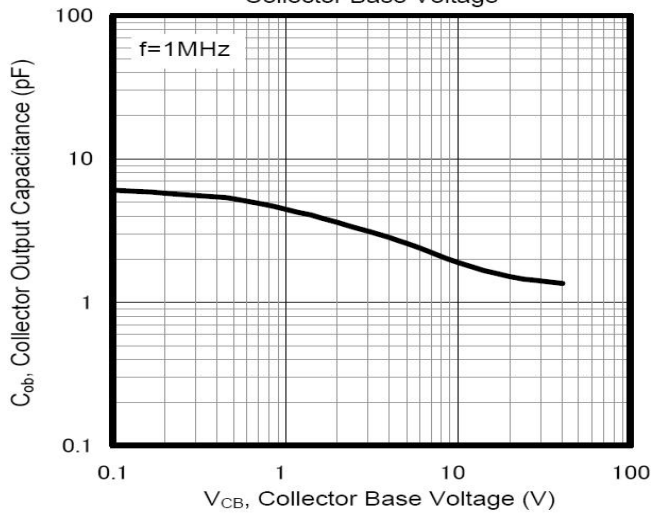
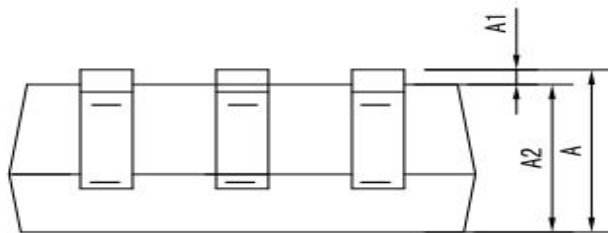
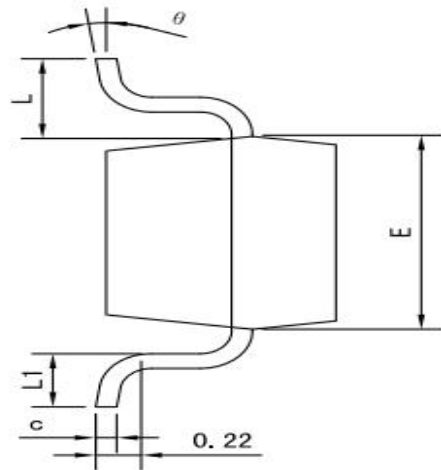
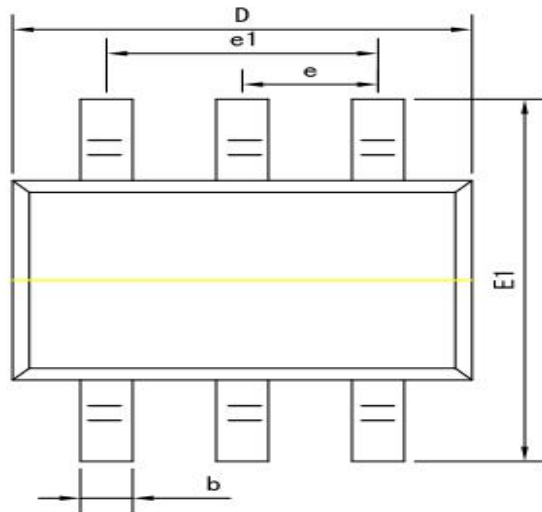


Fig 5. Collector Output Capacitance vs Collector Base Voltage



Package outline dimensions

SOT-363



Symbol	Dimension in Millimeters	
	Min	Max
A	0.900	1.100
A1	0.000	0.100
A2	0.900	1.000
b	0.150	0.350
c	0.080	0.150
D	2.000	2.200
E	1.150	1.350
E1	2.150	2.450
e	0.650 TYP	
e1	1.200	1.400
L	0.525 REF	
L1	0.260	0.460
$\theta$	0°	8°

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