



# FUKUCOM COMPANY LTD.

福 靈 有 限 公 司

FLAT P, 3/F., EVEREST INDUSTRIAL CENTRE, 396 KWUN TONG ROAD,  
KWUN TONG, KOWLOON, HONG KONG.

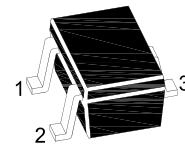
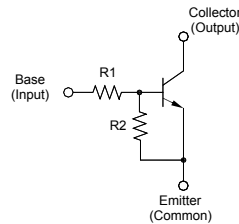
TEL: 852-2790 0314 FAX: 852-2790 0206

## MMDTC114YE

### NPN Silicon Epitaxial Planar Digital Transistor

#### Features

- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process



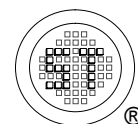
1.Base 2.Emitter 3.Collector  
SOT-523 Plastic Package

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

Parameter	Symbol	Value	Unit
Collector Emitter Voltage	$V_{CEO}$	50	V
Input Voltage	$V_I$	- 6 to + 40	V
Collector Current	$I_C$	100	mA
Power Dissipation	$P_{tot}$	150	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 55 to + 150	$^\circ\text{C}$

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}$ , $I_C = 5\text{ mA}$	$h_{FE}$	68	-	-	-
Collector Base Cutoff Current at $V_{CB} = 50\text{ V}$	$I_{CBO}$	-	-	0.5	$\mu\text{A}$
Emitter Base Cutoff Current at $V_{EB} = 5\text{ V}$	$I_{EBO}$	-	-	0.88	mA
Collector Emitter Saturation Voltage at $I_C = 5\text{ mA}$ , $I_B = 0.25\text{ mA}$	$V_{CE(sat)}$	-	-	0.3	V
Input on Voltage at $V_{CE} = 0.3\text{ V}$ , $I_C = 1\text{ mA}$	$V_{I(on)}$	-	-	1.4	V
Input off Voltage at $V_{CE} = 5\text{ V}$ , $I_C = 100\ \mu\text{A}$	$V_{I(off)}$	0.3	-	-	V
Transition frequency at $V_{CE} = 10\text{ V}$ , $-I_E = 5\text{ mA}$ , $f = 100\text{ MHz}$	$f_T$	-	250	-	MHz
Input Resistance	$R_1$	7	10	13	K $\Omega$
Resistance Ratio	$R_2 / R_1$	3.7	4.7	5.7	-





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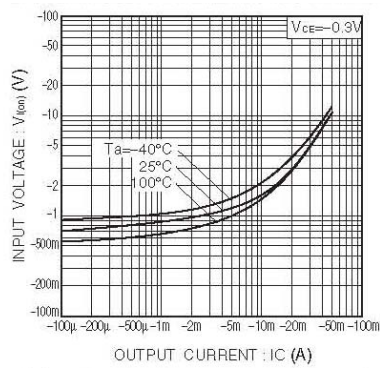


Fig.1 Input voltage vs. output current  
(ON characteristics)

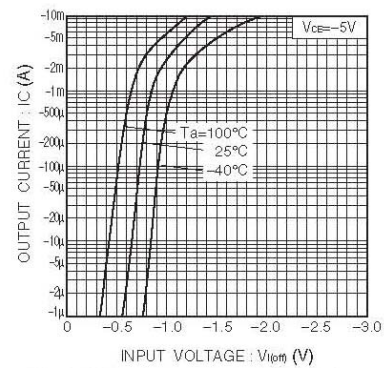


Fig.2 Output current vs. input voltage  
(OFF characteristics)

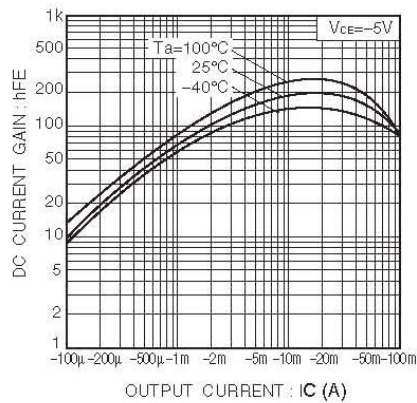


Fig.3 DC current gain vs. output current

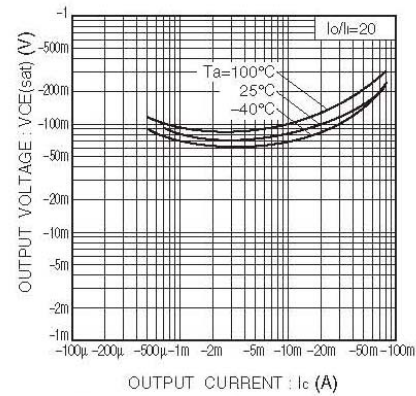


Fig.4 Output voltage vs. output current

