

# DRCF123E

## Silicon NPN epitaxial planar type

For digital circuits

DRC3123E in ML3 type package

### ■ Features

- Low collector-emitter saturation voltage  $V_{CE(sat)}$
- Contributes to miniaturization of sets, mount area reduction
- Eco-friendly Halogen-free package

### ■ Packaging

DRCF123E0L Embossed type (Thermo-compression sealing): 10000 pcs / reel (standard)

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	50	V
Collector-emitter voltage (Base open)	$V_{CEO}$	50	V
Collector current	$I_C$	100	mA
Total power dissipation	$P_T$	100	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

### ■ Package

#### • Code

ML3-N4-B

Package dimension clicks here.→

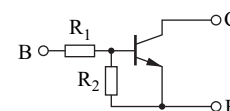
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#### • Pin Name

- 1: Base
- 2: Emitter
- 3: Collector

### ■ Marking Symbol: N2

### ■ Internal Connection



Resistance value	$R_1$	2.2	k $\Omega$
	$R_2$	2.2	k $\Omega$

### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	$I_C = 10 \mu\text{A}, I_E = 0$	50			V
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = 2 \text{mA}, I_B = 0$	50			V
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = 50 \text{V}, I_E = 0$			0.1	$\mu\text{A}$
Collector-emitter cutoff current (Base open)	$I_{CEO}$	$V_{CE} = 50 \text{V}, I_B = 0$			0.5	$\mu\text{A}$
Emitter-base cutoff current (Collector open)	$I_{EBO}$	$V_{EB} = 6 \text{V}, I_C = 0$			2.0	mA
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 10 \text{V}, I_C = 5 \text{mA}$	6		20	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10 \text{mA}, I_B = 0.5 \text{mA}$			0.3	V
Input voltage (ON)	$V_{I(on)}$	$V_{CE} = 0.2 \text{V}, I_C = 5 \text{mA}$	1.8			V
Input voltage (OFF)	$V_{I(off)}$	$V_{CE} = 5 \text{V}, I_C = 100 \mu\text{A}$			0.8	V
Input resistance	$R_1$		-30%	2.2	+30%	k $\Omega$
Resistance ratio	$R_1 / R_2$		0.8	1.0	1.2	—

Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

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