

2SC5829

Silicon NPN epitaxial planar type

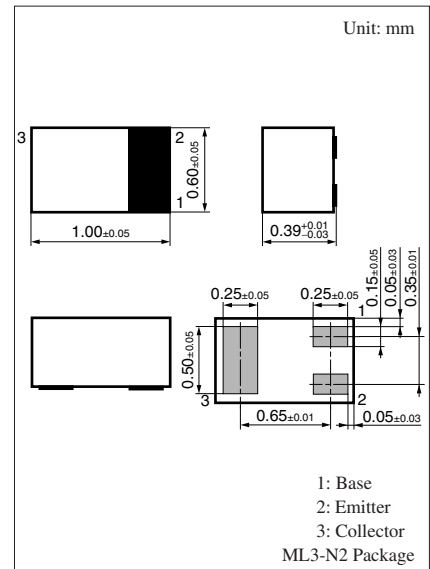
For high speed switching

■ Features

- Allowing the small current and low voltage operation
- High transition frequency f_T
- Suitable for high-density mounting and downsizing of the equipment for Ultraminiature leadless package
0.6 mm × 1.0 mm (height 0.39 mm)

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	10	V
Collector-emitter voltage (Base open)	V_{CEO}	7	V
Emitter-base voltage (Collector open)	V_{EBO}	2	V
Collector current	I_{C}	10	mA
Collector power dissipation	P_{C}	50	mW
Junction temperature	T_{j}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$



Marking Symbol: X

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{\text{CB}} = 10 \text{ V}, I_{\text{E}} = 0$			1	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{\text{EB}} = 1.5 \text{ V}, I_{\text{C}} = 0$			1	μA
Forward current transfer ratio	h_{FE}	$V_{\text{CE}} = 1 \text{ V}, I_{\text{C}} = 1 \text{ mA}$	100		200	—
Transition frequency	f_{T}	$V_{\text{CE}} = 1 \text{ V}, I_{\text{C}} = 1 \text{ mA}, f = 0.8 \text{ GHz}$		4		GHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{\text{CB}} = 1 \text{ V}, I_{\text{E}} = 0, f = 1 \text{ MHz}$		0.4		pF
Forward transfer gain	$ S_{21e} ^2$	$V_{\text{CE}} = 1 \text{ V}, I_{\text{C}} = 1 \text{ mA}, f = 0.8 \text{ GHz}$		6		dB
Maximum unilateral power gain	G_{UM}	$V_{\text{CE}} = 1 \text{ V}, I_{\text{C}} = 1 \text{ mA}, f = 0.8 \text{ GHz}$		15		dB
Noise figure	NF	$V_{\text{CE}} = 1 \text{ V}, I_{\text{C}} = 1 \text{ mA}, f = 0.8 \text{ GHz}$		3.5		dB

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

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