TOSHIBA 2SC3138

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE (PCT PROCESS)

2 S C 3 1 3 8

HIGH VOLTAGE SWITCHING APPLICATIONS

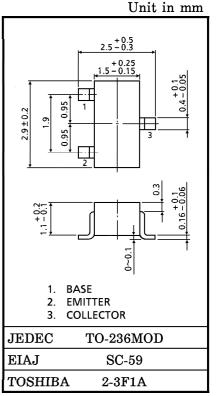
High Voltage : $V_{CBO} = 200 V \text{ (Max.)}$

 $V_{CEO} = 200 \text{ V (Max.)}$

- Small Flat Package
- Complementary to 2SA1255

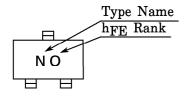
MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	200	V
Collector-Emitter Voltage	v_{CEO}	200	V
Emitter-Base Voltage	$V_{ m EBO}$	5	V
Collector Current	$I_{\mathbf{C}}$	50	mA
Base Current	$I_{\mathbf{B}}$	20	mA
Collector Power Dissipation	$P_{\mathbf{C}}$	150	mW
Junction Temperature	T_{j}	125	°C
Storage Temperature Range	$\mathrm{T_{stg}}$	-55~125	$^{\circ}\mathrm{C}$



Weight: 0.012 g

MARKING



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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARAC	CTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		ICBO	$V_{CB} = 200 \text{ V}, I_{E} = 0$	_	_	0.1	μ A
Emitter Cut-off Current		IEBO	$V_{EB} = 5 V, I_{C} = 0$	_	_	0.1	μ A
Collector-Base Voltage	Breakdown	V (BR) CBO	$I_{\mathrm{C}}=0.1\mathrm{mA},~I_{\mathrm{E}}=0$	200		_	V
Collector-Emit Voltage	ter Breakdown	V (BR) CEO	$I_{\mathrm{C}}=1\mathrm{mA},~I_{\mathrm{B}}=0$	200	_	_	V
DC Current G	lain	hFE (Note)	$V_{CE} = 3 \text{ V}, I_{C} = 10 \text{ mA}$	70	_	240	
Collector-Emit Voltage	ter Saturation	V _{CE} (sat)	$I_{\mathrm{C}}=10\mathrm{mA},~I_{\mathrm{B}}=1\mathrm{mA}$	_	0.1	0.5	v
Base-Emitter Voltage	Saturation	V _{BE} (sat)	$I_{\mathrm{C}}=10\mathrm{mA},~I_{\mathrm{B}}=1\mathrm{mA}$	_	0.75	1.5	V
Transition Fre	equency	$ m f_{T}$	$V_{CE} = 10 \text{ V}, I_{C} = 2 \text{ mA}$	50	100	_	MHz
Collector Output Capacitance		C_{ob}	$V_{CB} = 10 \text{ V}, I_{E} = 0, f = 1 \text{ MHz}$	_	2	4	pF
Switching Time	Turn on Time	t _{on}	$V_{CC} = 50 \text{ V}, I_{C} = 6 \text{ mA},$	_	0.3		
	Storage Time	${ m t_{stg}}$	$egin{aligned} ext{I}_{ ext{B1}} &= - ext{I}_{ ext{B2}} = 0.6 ext{mA}, \ ext{Pulse Width} &= 5 \mu ext{s}, \ ext{Duty Cycle} &\leq 2\% \end{aligned}$	_	2	_	μ s
	Fall Time	tf		_	0.4		

(Note) : hFE Classification O : 70~140, $\ Y$: 120~240

