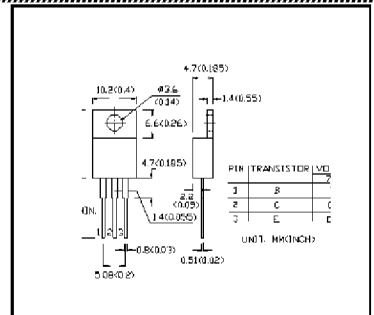


TIP31 series (NPN) & TIP32 series (PNP) are complementary silicon power transistors designed for power amplifiers and switching applications.



ABSOLUTE MAXIMUM RATINGS

Collector-Base Voltage	VCBO	40V	60V	80V	100V
Collector-Emitter Voltage	VCEO	40V	60V	80V	100V
Emitter-Base Voltage	VEBO	5V	5V	5V	5V
Collector Current	IC			3A	
Peak Collector Current	ICM			5A	
Base Current	IB			1A	
Continuous Power Dissipation (Tc=25°C)	Ptot			40W	
(Ta=25°C)				2W	
Operating & Storage Junction Temperature	Tj, Tstg			-65 to +150°C	

ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25°C unless otherwise specified)

PARAMETER		SYMBOL	MIN	MAX	UNIT	CONDITIONS
Collector-Emitter Breakdown Voltage	TIP31,TIP32	LVCEO*	40		V	IC=30mA IB=0
	TIP31A,TIP32A		60		V	IC=30mA IB=0
	TIP31B,TIP32B		80		V	IC=30mA IB=0
	TIP31C,TIP32C		100		V	IC=30mA IB=0
Collector Cutoff Current	TIP31,TIP32	ICEO		0.3	mA	VCE=30V IB=0
	TIP31A,TIP32A			0.3	mA	VCE=30V IB=0
	TIP31B,TIP32B			0.3	mA	VCE=60V IB=0
	TIP31C,TIP32C			0.3	mA	VCE=60V IB=0
Collector Cutoff Current	TIP31,TIP32	ICES		0.2	mA	VCE=40V VBE=0
	TIP31A,TIP32A			0.2	mA	VCE=60V VBE=0
	TIP31B,TIP32B			0.2	mA	VCE=80V VBE=0
	TIP31C,TIP32C			0.2	mA	VCE=100V VBE=0
Emitter Cutoff Current		IEBO		1	mA	VEB=5V IC=0
D.C. Current Gain		HFE*	25			IC=1A VCE=4V
			10	50		IC=3A VCE=4V
Base-Emitter Voltage		VBE*		1.8	V	IC=3A VCE=4V
Collector-Emitter Saturation Voltage		VCE(sat)*		1.2	V	IC=3A IB=375mA
Small Signal Current Gain		hfe	20			IC=0.5A VCE=10V f=1KHz
Gain Bandwidth Product		fT	3		MHz	IC=0.5A VCE=10V f=1MHz

* Pulse test : pulse width $< 300\mu\text{S}$, duty cycle $< 2\%$.



MICRO ELECTRONICS LTD.

38, Hung To Road, Microtron Building, Kwun Tong, Kowloon, Hong Kong.

Kwun Tong P.O. Box 69477 Hong Kong. Fax No. 2341 0321 Telex:43510 Micro Hx. Tel: 2343 0181-5

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