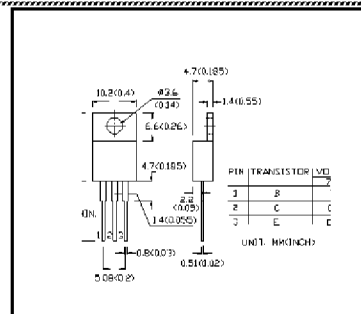


TIP31 series (NPN) & TIP32 series (PNP) are complementary silicon power transistors designed for power amplifiers and switching applications.



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	L _{VCEO} *	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	I _{CEO}		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	I _{CES}		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		I _{EBO}		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			f=1KHz	VCE=10V
Gain Bandwidth Product		fT	3		MHz	IC=0.5A	VCE=10V f=1MHz

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



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