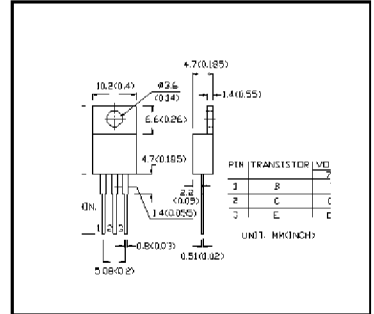


# MICRO ELECTRONICS

## TIP31,2 SERIES

COMPLEMENTARY  
SILICON POWER  
TRANSISTORS

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



### ABSOLUTE MAXIMUM RATINGS

		TIP31/2	TIP31A/2A	TIP31B/2B	TIP31C/2C
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
Collector Cutoff Current	TIP31A, TIP32A	ICEO	60		V	IC=30mA IB=0
	TIP31B, TIP32B		80		V	IC=30mA IB=0
	TIP31C, TIP32C		100		V	IC=30mA IB=0
	TIP31, TIP32			0.3	mA	VCE=30V IB=0
Collector Cutoff Current	TIP31A, TIP32A	ICES		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
	TIP31, TIP32			0.2	mA	VCE=40V VBE=0
Emitter Cutoff Current	TIP31A, TIP32A	ICES		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
	TIP31, TIP32			1	mA	VEB=5V IC=0
D.C. Current Gain	TIP31, TIP32	HFE*	25			IC=1A VCE=4V
			10	50		IC=3A VCE=4V
Base-Emitter Voltage	TIP31, TIP32	VBE*		1.8	V	IC=3A VCE=4V
Collector-Emitter Saturation Voltage	TIP31, TIP32	VCE(sat)*		1.2	V	IC=3A IB=375mA
Small Signal Current Gain	TIP31, TIP32	hfe	20			IC=0.5A VCE=10V f=1KHz
Gain Bandwidth Product	TIP31, TIP32	fT	3		MHz	IC=0.5A VCE=10V f=1MHz

\* Pulse test : pulse width < 300μS, duty cycle < 2%.



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