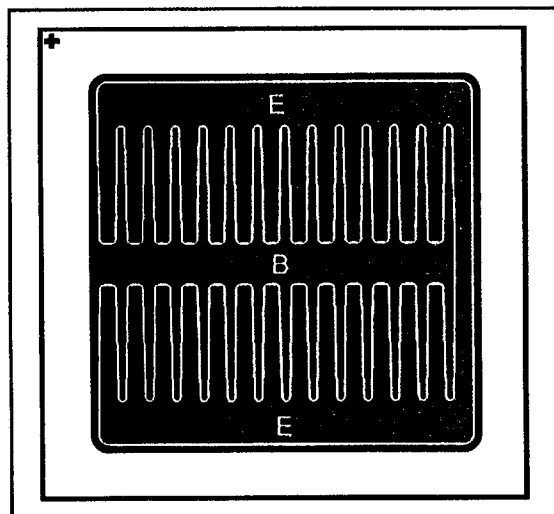


Product Bulletin OTC2470
August 1990

NPN Power Switching Transistor

Type OTC2470 120V, 30A

T-35-19



Note: Both emitters must be connected to achieve design characteristics. Two 7 mil wires on each side suggested.

Applications

- High inductance loads as used for solenoids
- Power inverters and switching regulators through 50 KHz.

Features

- Contact Metallization:
Base and Emitter: Aluminum
Collector: Alloy Gold Suitable for Eutectic Mount
- Complementary PNP Die: OTC2670 Type
- Dimensions:
Die Size: .250 x .250 x .010 inch
Emitter Bond Area (E): .185 x .020 inch
Base Bond Area (B): .185 x .020 inch

Electrical Characteristics At 25°C

Symbol	Parameter	2470-120H		2470-120L		2470-90H		2470-90L		Units	Test Conditions
		Min	Max	Min	Max	Min	Max	Min	Max		
ICEX	Collector Cutoff		100		100		100		100	μA	VCE = 150 VBE = -0.5V
ICEX	Collector Cutoff		10		10		10		10	mA	VCE = 150 VBE = -0.5V to 150°C
IEBO	Emitter Cutoff		10		10		10		10	μA	VEB = 8V
BVCBO	Collector-Base	200		200		150		150		Vdc	IC = .5mA
BVCEO	Collector-Emitter ⁽¹⁾	120		120		90		90		Vdc	IC = 30mA
hFE	D.C. Current Gain	80	170	50	100	80	170	50	100		IC = 1A VCE = 5V
hFE	D.C. Current Gain ⁽¹⁾⁽²⁾	90	150	50	110	90	150	50	110		IC = 10A VCE = 2V
hFE	D.C. Current Gain ⁽¹⁾⁽²⁾	30		10		30		10			IC = 30A VCE = 3V
VBE(SAT)	Base Saturation ⁽¹⁾⁽²⁾		1.3		1.3		1.3		1.3	Vdc	IC = 10A IB = 0.5V
VBE(SAT)	Base Saturation ⁽¹⁾⁽²⁾		1.8		1.8		1.8		1.8	Vdc	IC = 30A IB = 3V
VCE(SAT)	Collector Saturation ⁽¹⁾⁽²⁾		0.6		0.6		0.6		0.6	Vdc	IC = 10A IB = 0.5A
VCE(SAT)	Collector Saturation ⁽¹⁾⁽²⁾		1.8		1.8		1.8		1.8	Vdc	IC = 30A IB = 0.5A
Ton	td + tr ⁽²⁾		0.35		0.35		0.35		0.35	μsec	VC = 20V IC = 10A IB1 = IB2 = 0.5A
Toff	ts + tf ⁽²⁾		1.25		1.25		1.25		1.25	μsec	VC = 20V IC = 10A IB1 = IB2 = 0.5A
COB	Output Capacitance (2)		750		750		750		750	pf	VCB = 10V f = 1MHz
ft	Small Signal Current Gain (2)	4		4		4		4			IC = 3A VCE = 10V f = 10MHz

(1) Pulse width 300 μsec 2% duty cycle

(2) Parameters verified on assembled devices. Data available upon request.

(3) The OTC2470 is used in Optek device types 2N5330, 2N6275, and 2N6393.

Optek reserves the right to make changes at any time in order to improve design and to supply the best product possible.

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