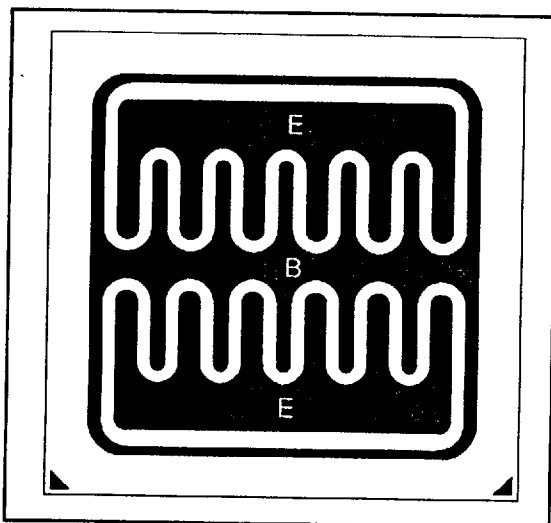


NPN Power Switching Transistor

Type OTC1900 80V, 10A

T-35-11



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

Applications

- Inverters
- Switching Regulators
- Motor Controls
- Solenoid Driver

Features

- NPN Planar Epitaxial Power Transistor
- Contact Metallization:
Base and Emitter: Aluminum
Collector: Alloy Gold Suitable for Eutectic Mount
- Complementary PNP: OTC1550 Type
- Dimensions:
Die Size: .136 x .136 x .010 inch
Emitter Bond Area (E): .095 x .012 inch
Base Bond Area (B): .110 x .007 inch

Electrical Characteristics At 25°C

Symbol	Parameter	1900-70M		1900-80L		1900-80M		1900-80H		Units	Test Conditions
		Min	Max	Min	Max	Min	Max	Min	Max		
ICEX	Collector Cutoff		0.1		0.1		0.1		0.1	mA	$V_{CE} = 90, V_{BE} = -0.5V$
ICEX	Collector Cutoff		10		10		10		10	mA	$V_{CE} = 90, V_{BE} = -0.5V, T_j = 150^\circ C$
IEBO	Emitter Cutoff		10		10		10		10	μA	$V_{EB} = 5V$
BV _{CBO}	Collector-Base	100		100		100		100		V _{dc}	$I_C = 100\mu A$
BV _{CEO}	Collector-Emitter ⁽¹⁾	70		80		80		80		V _{dc}	$I_C = 30mA$
h _{FE}	DC Current Gain ⁽¹⁾	100		50	110	90	200	150	300		$I_C = 1A, V_{CE} = 5V$
h _{FE}	DC Current Gain ⁽¹⁾⁽²⁾	80	170	25	110	90	160	140	220		$I_C = 5A, V_{CE} = 5V$
h _{FE}	DC Current Gain ⁽²⁾	15		10		20		40			$I_C = 10A, V_{CE} = 5V$
V _{BE(SAT)}	Emitter Saturation ⁽¹⁾		1.5		1.5		1.5		1.5	V _{dc}	$I_C = 3A, I_B = 0.15A$
V _{CE(SAT)}	Collector Saturation ⁽¹⁾⁽²⁾		0.3		0.3		0.3		0.3	V _{dc}	$I_C = 3A, I_B = 0.15A$
T _{on}	$t_d + t_r$ ⁽²⁾		200		200		200		200	nsec	$V_C = 30V, I_C = 1A, I_{B1} = I_{B2} = 0.05A$
T _{off}	$t_s + t_f$ ⁽²⁾		900		900		900		900	nsec	$V_C = 30V, I_C = 1A, I_{B1} = I_{B2} = 0.05A$
C _{OB}	Output Capacitance ⁽²⁾		300		300		300		300	pf	$V_{CB} = -10V, f = 1MHz$
f _t	Small Signal Current Gain ⁽²⁾	10		10		10		10			$I_C = 500mA, V_{CE} = 5V, f = 10MHz$

(1) Pulse width 300 μ sec 2% duty cycle

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

(3) Used on Optek device Types 2N5154, 2N5004, 2N5328.

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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