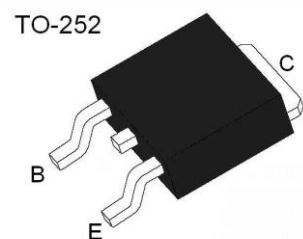


Application

- LED TV backlight

Features

- High breakdown voltage $BV_{CEO} > 150V$
- $h_{FE} > 100$ for $I_C = 150mA$, $V_{CE} = 0.25V$



Absolute Maximum Rating (Ta=25°C, unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-base voltage	BV_{CBO}	150	V
Collector-emitter voltage	BV_{CEO}	150	V
Emitter-base voltage	BV_{EBO}	7	V
Continuous collector current	I_C	1	A
Peak collector current	I_{CP}	3	A
Base current	I_B	0.5	A
Collector power dissipation	P_C	3.8	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55~150	°C

Thermal Characteristics (Ta=25°C, unless otherwise specified)

Parameter	Symbol	Value	Unit
Thermal resistance, junction to ambient	$R_{\theta JA}$	33	°C/W
Thermal resistance, junction to leads	$R_{\theta JL}$	12	°C/W

Electrical Characteristics (Ta=25°C, unless otherwise specified)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage*	BV_{CBO}	$I_C = 100\mu A, I_E = 0$	150			V
Collector-emitter voltage*	BV_{CEO}	$I_C = 10mA, I_B = 0$	150			V
Emitter-base voltage*	BV_{EBO}	$I_E = 100\mu A, I_C = 0$	7			V
Collector emitter cut-off current	I_{CES}	$V_{CE} = 150V, V_{CE} = 0.$			50	nA
Collector cut-off current	I_{CBO}	$V_{CB} = 150V, I_E = 0$			50	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = 7V, I_C = 0$			50	nA
DC current gain*	h_{FE1}	$V_{CE} = 0.2V, I_C = 85mA$	60			
	h_{FE2}	$V_{CE} = 0.25V, I_C = 150mA$	100			
Collector-emitter saturation voltage*	$V_{CE(sat)}$	$I_C = 100mA, I_B = 5mA$			0.25	V
Base -emitter saturation voltage*	$V_{BE(sat)}$	$I_C = 100mA, I_B = 5mA$			0.95	V
Base -emitter turn on voltage*	V_{BEont}	$V_{CE} = 0.25V, I_C = 150mA$			0.95	
Transition frequency	f_T	$V_{CE} = 5V, I_C = 150mA$		140		MHz
Output capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$		14		pF
Delay time	t_d	$V_{CC} = 120V, I_C = 150mA$ $-I_{B2} = 1.5mA,$ $V_{CE(ON)} = 0.25V$		512		ns
Risetime	t_r			426		ns
Storage time	t_s			3413		ns
Fall time	t_f			321		ns
Storage time	t_s	$V_{CC} = 120V, I_C = 150mA$ $-I_{B2} = 1.5mA,$ $V_{CE(ON)} = 4V$		65		ns
Fall time	t_f			294		ns

Note: *Measured under pulsed conditions. Pulse width = 300μs. Duty cycle ≤ 2%

Typical Characteristics

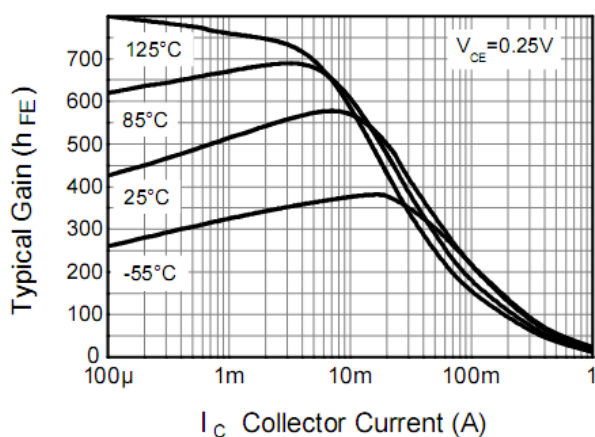


Figure.1 DC Current Gain

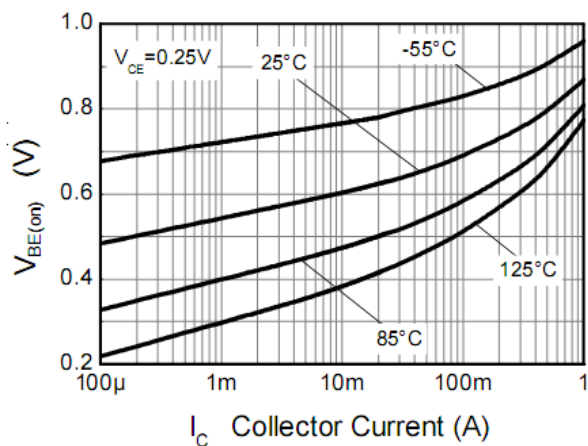


Figure.2 Base-Emitter on Saturation voltage

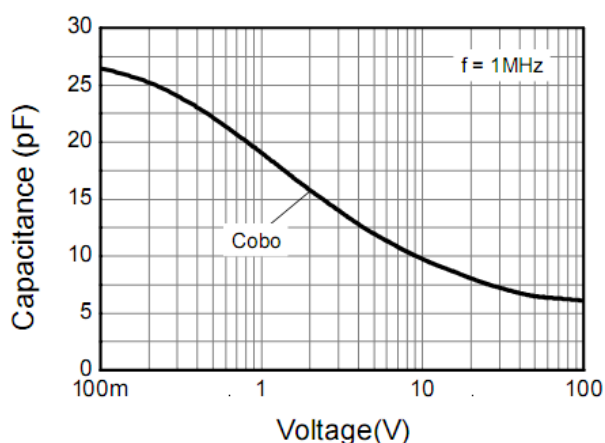


Figure.3 Collector Output Capacitance

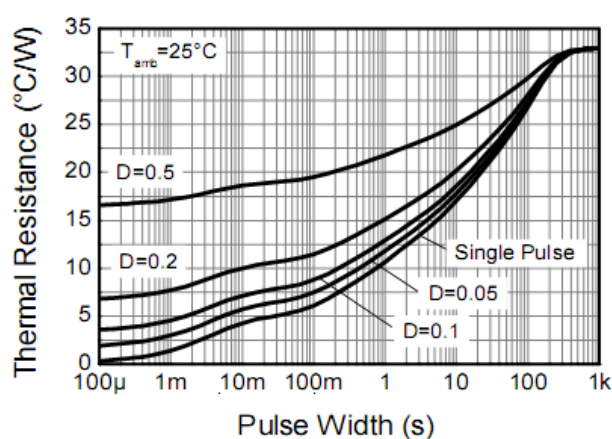


Figure.4 ransient Thermal Impedance

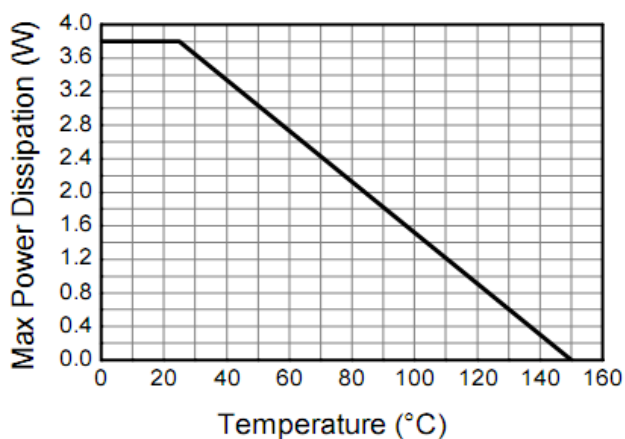


Figure.5. Derating Curve

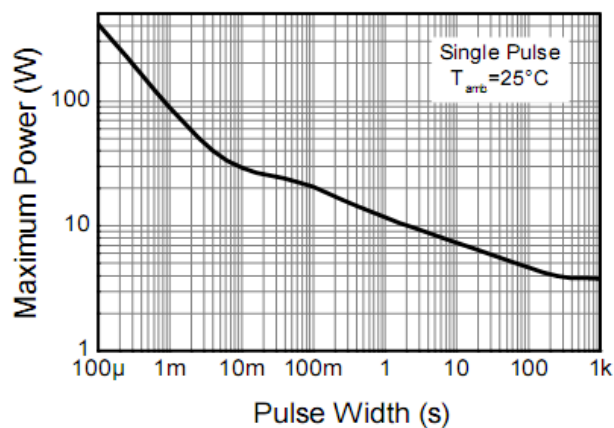
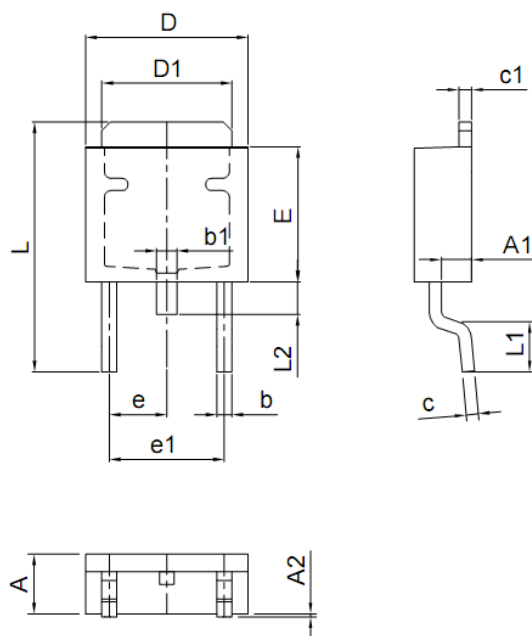


Figure 6. Pulse Power Dissipation

Package Dimensions


Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.50	0.087	0.094
A1	1.00	1.40	0.039	0.055
A2	0.00	0.15	0.000	0.006
b	0.50	0.70	0.020	0.028
b1	0.70	0.90	0.028	0.035
c	0.40	0.60	0.016	0.024
c1	0.40	0.60	0.016	0.024
D	6.20	6.70	0.244	0.264
D1	5.10	5.50	0.201	0.217
E	5.50	6.00	0.217	0.236
e	2.20	2.40	0.087	0.094
e1	4.40	4.80	0.173	0.189
L	9.70	10.40	0.382	0.409
L1	1.40	1.70	0.055	0.063
L2	0.60	1.20	0.024	0.047

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