



BU941Z

NPN SILICON TRANSISTOR

NPN POWER DARLINGTON HIGH VOLTAGE IGNITION COIL DRIVER

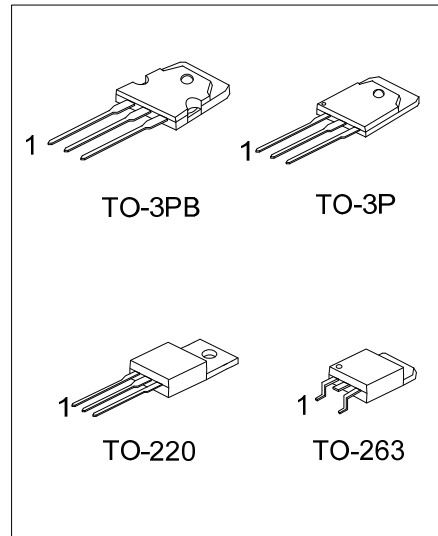
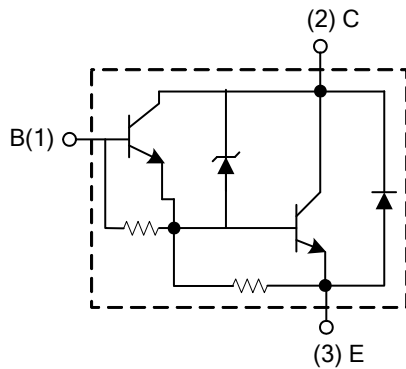
FEATURES

- * NPN Darlington
- * Integrated antiparallel collector-emitter diode

APPLICATIONS

- * High ruggedness electric ignitions

INTERNAL SCHEMATIC DIAGRAM



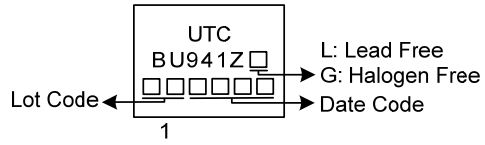
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
BU941ZL-T3P-T	BU941ZG-T3P-T	TO-3P	B	C	E	Tube
BU941ZL-T3B-T	BU941ZG-T3B-T	TO-3PB	B	C	E	Tube
BU941ZL-TA3-T	BU941ZG-TA3-T	TO-220	B	C	E	Tube
BU941ZL-TQ2-T	BU941ZG-TQ2-T	TO-263	B	C	E	Tube
BU941ZL-TQ2-R	BU941ZG-TQ2-R	TO-263	B	C	E	Tape Reel

Note: Pin assignment: B: Base C: Collector E: Emitter

<p>BU941ZG-T3P-T</p> <p>(1)Packing Type</p> <p>(2)Package Type</p> <p>(3)Green Package</p>	<p>(1) T: Tube, R: Tape Reel</p> <p>(2) T3P: TO-3P, TO-3PB: TO-3PB, TA3: TO-220, TQ2: TO-263</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
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MARKING



■ ABSOLUTE MAXIMUM RATINGS

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Emitter Voltage		V_{CEO}	350	V
Emitter-Base Voltage		V_{EBO}	5	V
Collector Current		I_C	15	A
Collector Peak Current		I_{CM}	30	A
Base Current		I_B	1	A
Base Peak Current		I_{BM}	5	W
Total Power Dissipation ($T_C=25^\circ\text{C}$)	TO-3P/TO-3PB	P_D	155	W
	TO-220/TO263		150	W
Junction Temperature		T_J	+175	$^\circ\text{C}$
Storage Temperature		T_{STG}	-65 ~ +175	$^\circ\text{C}$

Note Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Clamping Voltage	V_{CL}^*	$I_C=10\text{mA}$	350		500	V
Collector Cut-Off Current	I_{CEO}	$V_{CE}=300\text{V}$			100	μA
		$V_{CE}=300\text{V}, T_J=125^\circ\text{C}$			0.5	mA
Emitter Cut-off Current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			20	mA
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}^*$	$I_C=8\text{A}, I_B=100\text{mA}$			1.6	V
		$I_C=10\text{A}, I_B=250\text{mA}$			1.8	
		$I_C=12\text{A}, I_B=300\text{mA}$			2	
Base-Emitter Saturation Voltage	$V_{BE(SAT)}^*$	$I_C=8\text{A}, I_B=100\text{mA}$			2.2	V
		$I_C=10\text{A}, I_B=250\text{mA}$			2.5	
		$I_C=12\text{A}, I_B=300\text{mA}$			2.7	
DC Current Gain	h_{FE}^*	$V_{CE}=10\text{V}, I_C=5\text{A}$	300		2500	
Diode Forward Voltage	V_F	$I_F=10\text{A}$			2.5	V
Functional Test		$V_{CC}=24\text{V}, V_{CLAMP}=400\text{V}, L=7\text{mH}$ (see Functional Test Circuit)	10			A
Fall Time	t_F	$V_{CC}=12\text{V}, V_{CLAMP}=300\text{V}, V_{BE}=0,$ $R_{BE}=47\Omega, L=7\text{mH}, I_C=7\text{A}, I_B=70\text{mA}$		0.5		μs
Storage Time	t_S	(see Fig.1)		15		

*Pulsed: Pulse duration=300 μs , duty cycle 1.5%

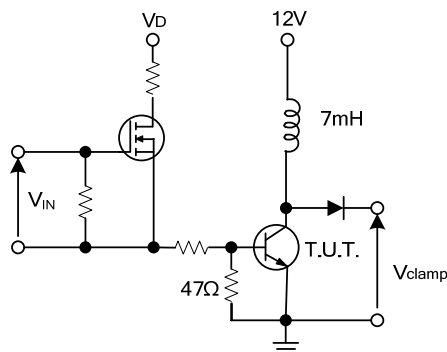
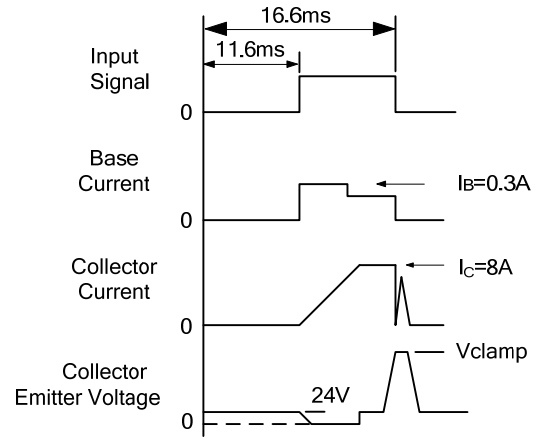
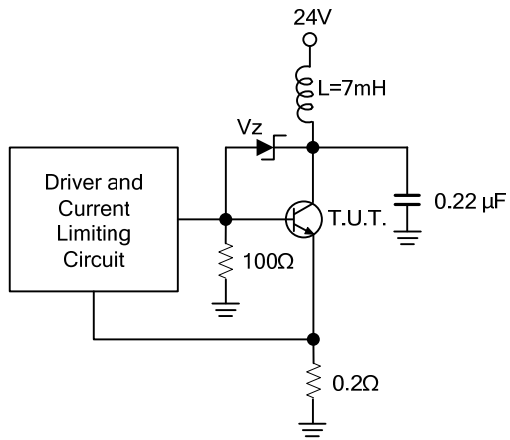
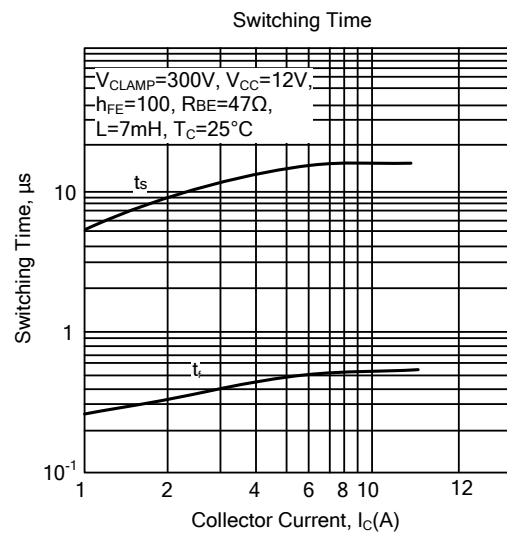
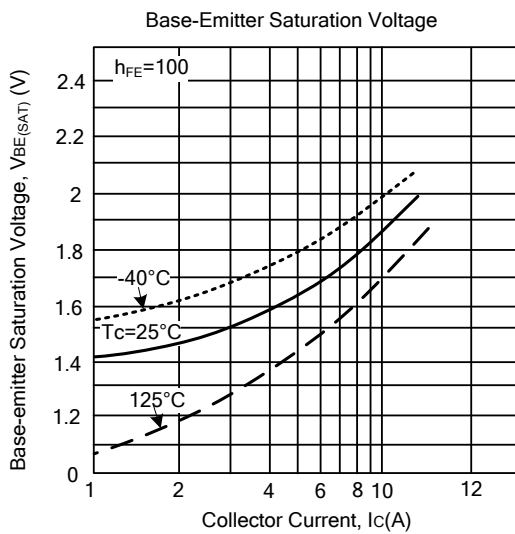
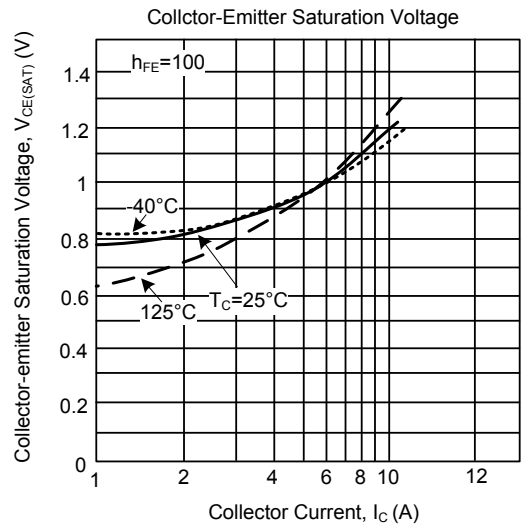
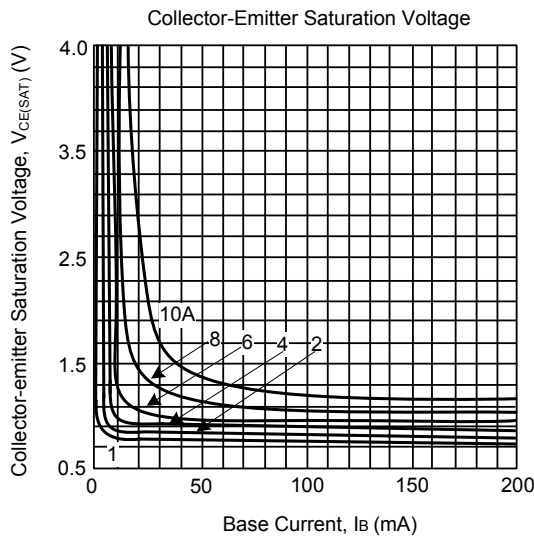
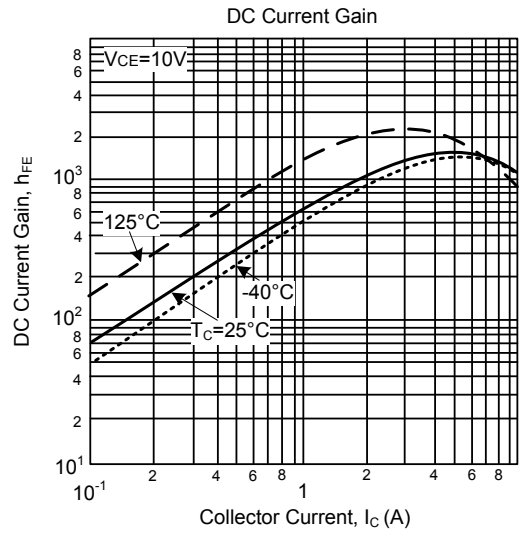
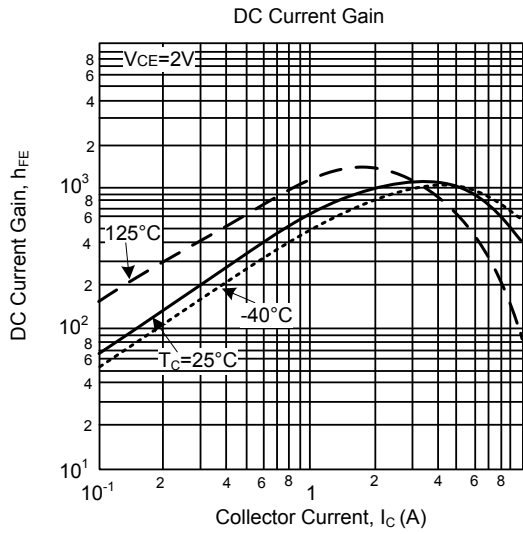


Fig. 1 Switching Time Test Circuit

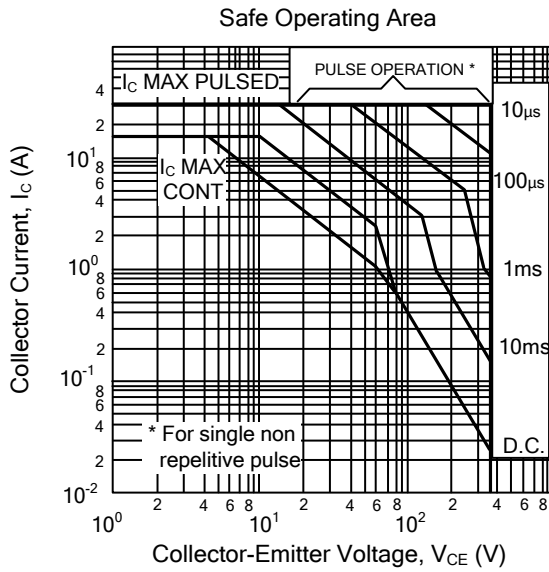
■ FUNCTION TEST CIRCUIT



TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS (Cont.)



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