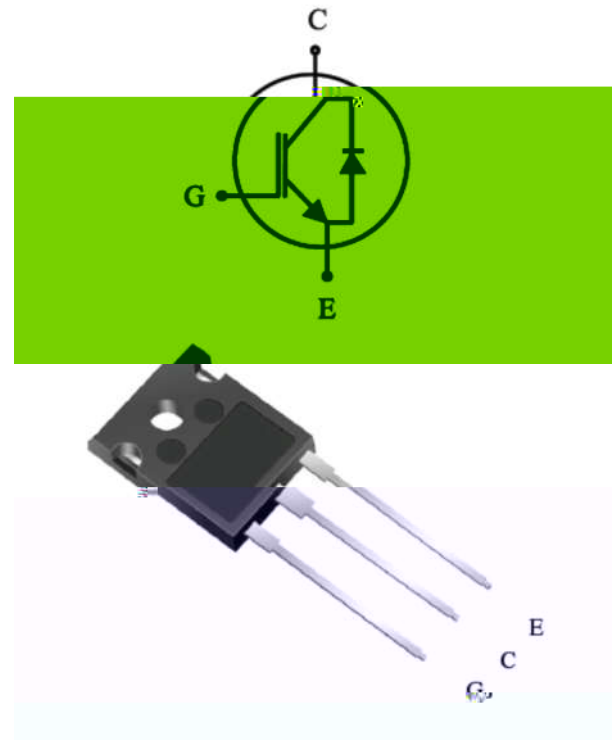

1350V /15A Trench Field Stop IGBT

Lu-semi Field Stop Trench IGBTs offer low switching losses, high energy efficiency and high avalanche ruggedness for soft switching applications such as inductive heating, microwave oven, etc.

- Trench-Stop Technology offering :
 - High speed switching
 - High ruggedness, temperature stable
 - Low V_{CEsat}
 - Easy parallel switching capability due to positive temperature coefficient in V_{CEsat}
- Soft current turn-off waveforms
- Enhanced avalanche capability

- Inductive cooking
- Inverterized microwave ovens
- Resonant converters
- Soft switching applications



Parameter	Symbol	Value	Unit
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$T_j = 25$ unless otherwise specified

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Collector-Emitter breakdown voltage	BV_{CES}	$V_{GE}=0V, I_C=250\mu A$	1350	-	-	V
Gate threshold voltage	$V_{GE(th)}$	$V_{GE}=V_{CE}, I_C=250\mu A$	5.1	5.8	6.4	V
Collector-Emitter Saturation voltage	$V_{CE(sat)}$	$V_{GE}=15V, I_C=15A$ $T_j = 25^\circ C$ $T_j = 150^\circ C$	- -	1.9 2.3	2.3 -	V
Zero gate voltage collector current	I_{CES}	$V_{CE} = 1350V, V_{GE} = 0V$ $T_j = 25^\circ C$ $T_j = 150^\circ C$	- -	- -	100 1000	μA
Gate-emitter leakage current	I_{GES}	$V_{CE} = 0V, V_{GE} = 20V$	-	-	100	nA

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Input capacitance	C_{ies}	$V_{CE} = 25V, V_{GE} = 0V,$ $f = 1MHz$	-	1655	-	pF
Output capacitance	C_{oes}		-	72	-	
Reverse transfer capacitance	C_{res}		-	35	-	
Gate charge	Q_G	$V_{CC} = 600V, I_C = 15A,$ $V_{GE} = 15V$	-	101	-	nC

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Turn-off delay time	$td_{(off)}$	$V_{CC} = 600V, I_C = 15A,$ $V_{GE} = 0/15V,$ $R_g=12\Omega$	-	80	-	ns
Fall time	t_f		-	200	-	ns
Turn-off energy	E_{off}		-	0.28	-	mJ

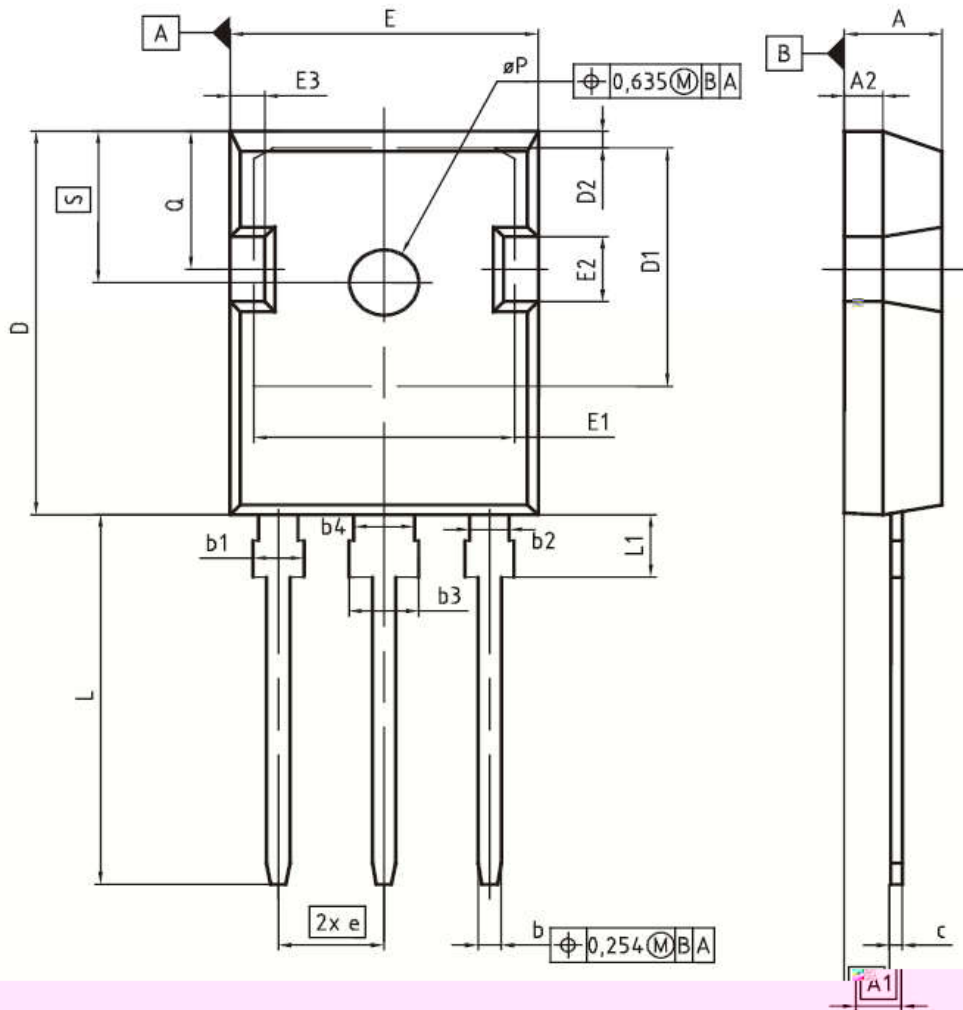
Note:

 BV_{ces} testing without filter could damage the device. BV_{ces} is guaranteed by $I_{ces}@1350V$ test.

$T_j = 25$ unless otherwise specified

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Diode Forward Voltage	V_{FM}	$I_F = 15A$	-	2.3	-	V
Reverse Recovery Time	T_{rr}	$I_F = 10A,$ $di/dt = 200A/\mu s$	-	70	-	ns
Reverse Recovery Current	I_{rr}		-	5	-	A
Reverse Recovery Charge	Q_{rr}		-	1600	-	nC

PG-TO247-3



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.83	5.21	0.190	0.205
A1	2.27	2.54	0.089	0.100
A2	1.85 ₋	2.16 ₋	0.073 ₋	0.085 ₋
b	1.07	1.33	0.042	0.052
b1	1.90	2.41	0.075	0.095
b2	1.90	2.16	0.075	0.085
b3	2.87	3.38	0.113	0.133
b4	2.87	3.13	0.113	0.123
c	0.55	0.68	0.022	0.027
D	20.80	21.10	0.819	0.831
D2	0.95 ₋	1.35 ₋	0.037 ₋	0.053 ₋
E	15.70	16.13	0.618	0.635
E1	13.10	14.15	0.516	0.557
E2	3.68	5.10	0.145	0.201
E3	1.00	2.60	0.039	0.102
e	5.44 (BSC)		0.214 (BSC)	
N	3		3	
L	19.80	20.32	0.780	0.800
L1	4.10	4.47	0.161	0.176
øP	3.50	3.70	0.138	0.146
Q	5.49	6.00	0.216	0.236
S	6.04	6.30	0.238	0.248