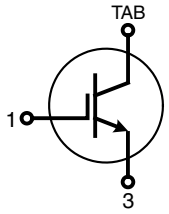
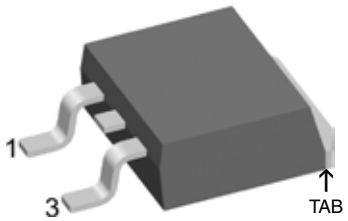
High Voltage IGBT

I_{C25} = 38 A
V_{CES} = 1200 V
$V_{CE(sat)\ typ}$ = 2.4 V

Short Circuit SOA Capability
Square RBSOA





IGBT

Symbol	Conditions	Maximum Ratings	
V_{CES}	T_{VJ} = 25°C to 150°C	1200	V
V_{GES}		±20	V
I_{C25}	T_C = 25°C	38	A
I_{C90}	T_C = 90°C	25	A
I_{CM}	V_{GE} = 15 V; R_G = 82 Ω; T_{VJ} = 125°C	35	A
V_{CEK}	RBSOA, clamped inductive load; L = 100 µH	V_{CES}	
t_{SC} (SCSOA)	V_{CE} = V_{CES}; V_{GE} = ±15 V; R_G = 82 Ω; T_{VJ} = 125°C non-repetitive	10	µs
P_{tot}	T_C = 25°C	200	W

Symbol	Conditions	Characteristic Values (T_{VJ} = 25°C, unless otherwise specified) min.	typ.	max.	
$V_{CE(sat)}$	I_C = 20 A; V_{GE} = 15 V; T_{VJ} = 25°C		2.4	3.0	V
	T_{VJ} = 125°C		2.6		V
$V_{GE(th)}$	I_C = 0.6 mA; V_{GE} = V_{CE}	4.5		6.5	V
I_{CES}	V_{CE} = V_{CES}; V_{GE} = 0 V; T_{VJ} = 25°C			0.8	mA
	T_{VJ} = 125°C		0.8		mA
I_{GES}	V_{CE} = 0 V; V_{GE} = ± 20 V			200	nA
$t_{d(on)}$	Inductive load; T_{VJ} = 125°C		100		ns
t_r	V_{CE} = 600 V; I_C = 20 A		75		ns
$t_{d(off)}$	V_{GE} = ±15 V; R_G = 82 Ω		500		ns
t_f			70		ns
E_{on}			3.1		mJ
E_{off}			2.4		mJ
C_{ies}	V_{CE} = 25 V; V_{GE} = 0 V; f = 1 MHz		1000		pF
Q_{Gon}	V_{CE} = 600 V; V_{GE} = 15 V; I_C = 18 A		70		nC
R_{thJC}				0.63	K/W

Features

- **NPT IGBT**
  - low saturation voltage
  - positive temperature coefficient for easy paralleling
- **TO-263 package**
  - SMD assembly
  - industry standard outline

Applications

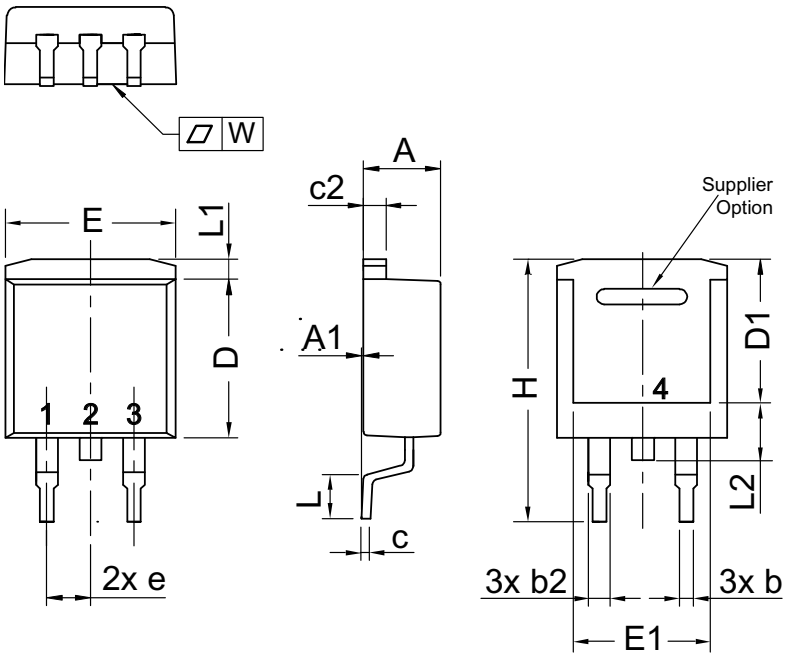
- **drives**
- **power supplies**
  - switched mode power supplies
  - uninterruptible power supplies

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Component		
Symbol	**Conditions**	**Maximum Ratings**
T_{VJ}		-55...+150 °C
T_{stg}		-55...+125 °C

Symbol	Conditions	Characteristic Values			
		min.	typ.	max.	
Weight			2		g



Dim.	Millimeter		Inches	
	min	max	min	max
A	4.06	4.83	0.160	0.190
A1	typ. 0.10		typ. 0.004	
b	0.51	0.99	0.020	0.039
b2	1.14	1.40	0.045	0.055
c	0.40	0.74	0.016	0.029
c2	1.14	1.40	0.045	0.029
D	8.38	9.40	0.330	0.370
D1	8.00	8.89	0.315	0.350
E	9.65	10.41	0.380	0.410
E1	6.22	8.20	0.245	0.323
e	2,54 BSC		0,100 BSC	
H	14.61	15.88	0.575	0.625
L	1.78	2.79	0.070	0.110
L1	1.02	1.68	0.040	0.066
L2	1.02	1.52	0.040	0.060
W	typ. 0.02	0.040	typ. 0.0008	0.0016

All dimensions conform with and/or are within JEDEC standard.

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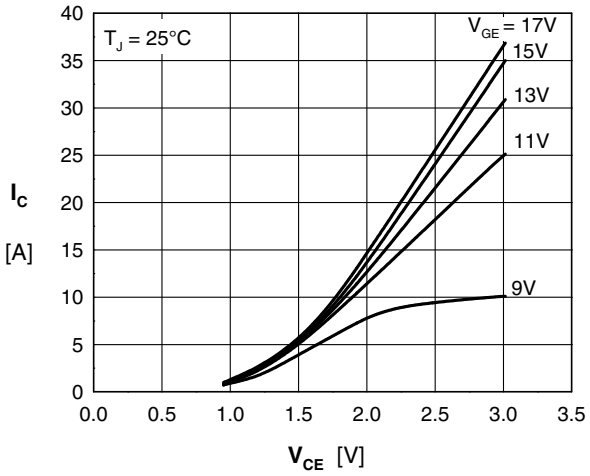


Fig. 1 Typ. output characteristics

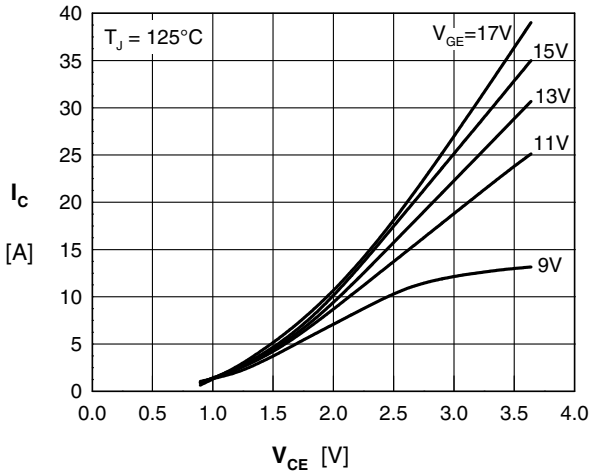


Fig. 2 Typ. output characteristics

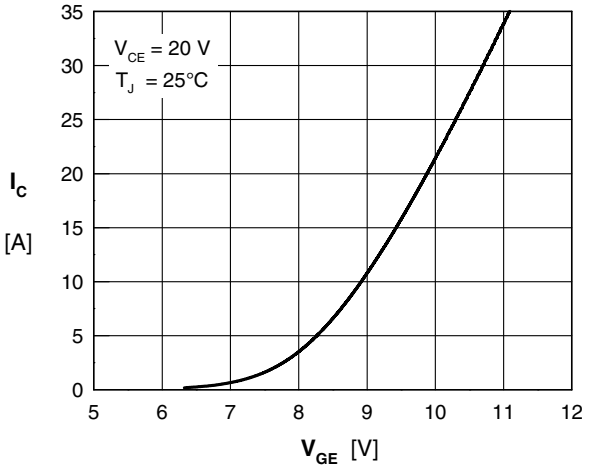


Fig. 3 Typ. transfer characteristics

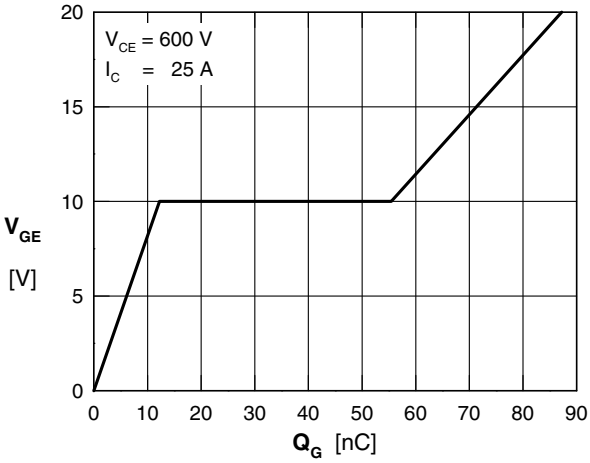


Fig. 4 Typ. turn on gate charge

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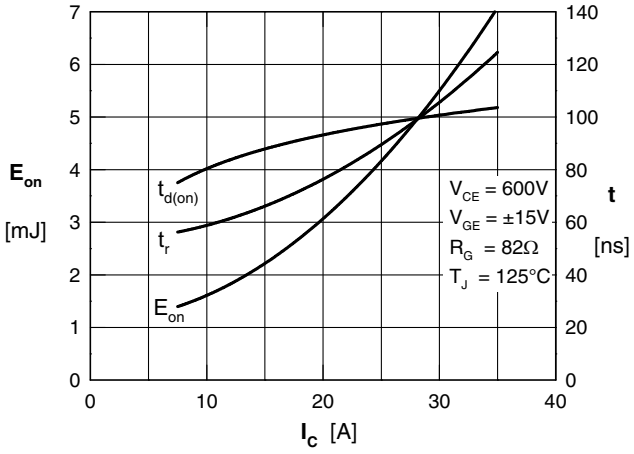


Fig. 5 Typ. turn on energy and switching times versus collector current

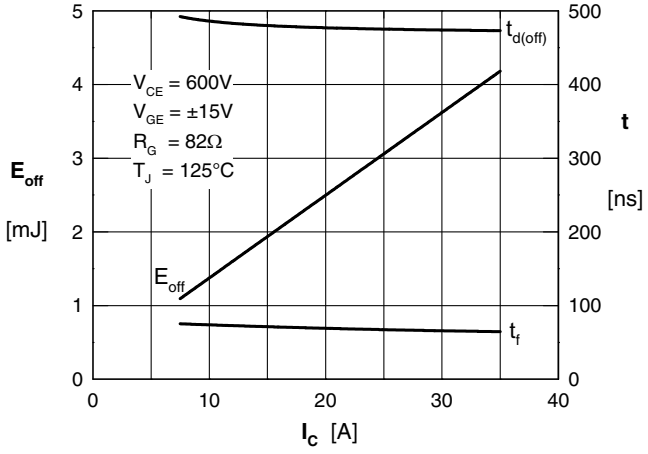


Fig. 6 Typ. turn off energy and switching times versus collector current

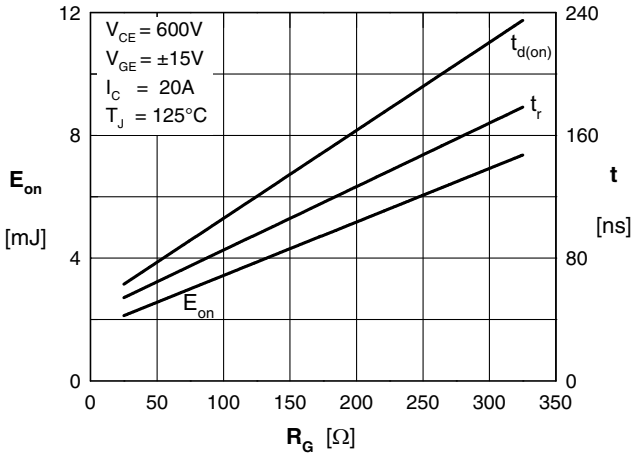


Fig. 7 Typ. turn on energy and switching times versus gate resistor

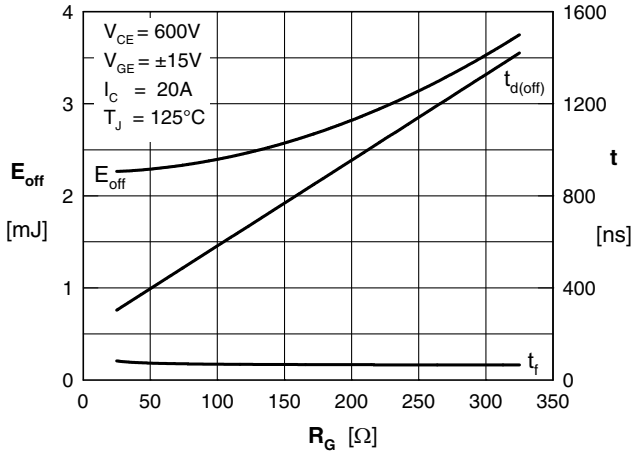


Fig.8 Typ. turn off energy and switching times versus gate resistor

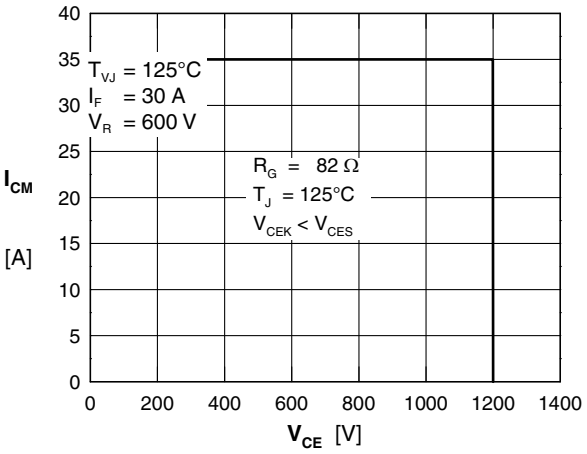


Fig. 9 Reverse biased safe operating area RBSOA

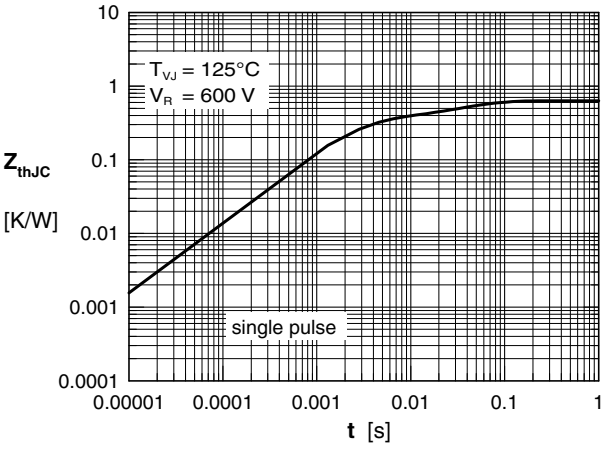


Fig. 10 Typ. transient thermal impedance

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