



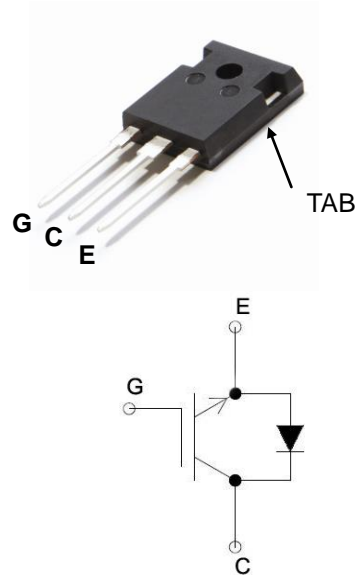
Name: AnR15IGB12D

Applications

- AC Inverter drives
- UPS
- Welding Power Supplies

Features

- Native Components
- Structure NPT
- Low $V_{CE(sat)}$
- High short circuit capability
- Easy paralleling
- Positive temperature coefficient of $V_{CE(sat)}$
- Low C_{ies} , C_{oes} , C_{res}
- 100% control of the effect of double current
- Insulated base plate for heat dissipation
- Self-restraint on the short-circuit currents



G	C	E	TAB
Gate	Collector	Emitter	Collector

Product Summary

Part Number	V_{CE}	$V_{CE(sat)}$	I_c	Packaging
AnR15IGB12D	1200 V	2.5 V	15 A	Tube

Table 1. Absolute Maximum Ratings

	Parameter	Value	Units
V_{CES}	Collector-to-Emitter Voltage	1200	V
V_{GES}	Gate-to-Emitter Voltage	± 20	V
$I_c, T_C=25\text{ }^\circ\text{C}$	Collector Current	20	A
$I_{CM}, T_C=25\text{ }^\circ\text{C}$	Pulsed Collector Current	40	
$I_c, T_C=90\text{ }^\circ\text{C}$	Collector Current	15	
$I_{CM}, T_C=90\text{ }^\circ\text{C}$	Pulsed Collector Current	30	
P_{tot}	Power dissipation $T_C=25\text{ }^\circ\text{C}$	85	W
T_j	Operating Temperature	-55 to +150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55 to +125	
t_{sc}	Short circuit withstand time $V_{GE}=15\text{ V}, V_{CC}\leq 1200\text{ V}, T_j=150\text{ }^\circ\text{C}$	10	μs
	Weight	6 (Typical)	g



Table 2. Thermal resistance

Symbol	Parameter	Min	Max	Units	Test Conditions
R _{thJC}	Junction-to-Case	–	1.4	°C/W	
R _{thJA}	Junction-to-Ambient	–	40		

Table 3. Electrical Characteristics @ T_J=25°C

Symbol	Parameter	Min.	Typ.	Max.	Units	Test Conditions
V _{CE(sat)}	Collector-to-Emitter Saturation Voltage	–	2.2	2.5	V	V _{GE} =15 V, I _C =15 A
		–	2.4	3.0		V _{GE} =15 V, I _C =15 A, T _J =125 °C
V _{GE(th)}	Gate Threshold Voltage	3.0	5.0	6.0	V	V _{CE} =V _{GE} , I _C =1 mA
I _{CES}	Zero Gate Voltage Collector Current	–	0.01	0.1	mA	V _{CE} =1200 V, V _{GE} =0 V
		–	0.5	2.0		V _{CE} =1200 V, V _{GE} =0 V, T _J =125 °C
I _{GES(F)}	Gate-to-Emitter Leakage Forward	–	10	100	nA	V _{GE} =20 V
		–	20	150		V _{GE} =20 V, T _J =125 °C
I _{GES(R)}	Gate-to-Emitter Leakage Reverse	–100	–10	–		V _{GE} =–20 V
		–150	–20	–		V _{GE} =–20 V, T _J =125 °C
C _{ies}	Input Capacitance	–	1100	–	pF	V _{GE} =0 V, V _{CE} =25 V, f=1 MHz
C _{oes}	Output Capacitance	–	170	–		
C _{res}	Reverse Transfer Capacitance	–	70	–		
t _{d(On)}	Turn-On Delay Time	–	20	–	ns	V _{CC} =600 V, I _C =15 A, V _{GE} =±15 V, R _G =10 Ω, T _J =25 °C, Inductive Load
t _r	Rise Time	–	30	–		
t _{d(Off)}	Turn-Off Delay Time	–	220	–		
t _f	Fall Time	–	20	–		
E _{on}	Turn-On Energy	–	1.2	–	mJ	V _{CC} =600 V, I _C =15 A, V _{GE} =±15 V, R _G =10 Ω, T _J =25 °C, Inductive Load
E _{off}	Turn-Off Energy	–	1.5	–		

Table 4. Anti-Parallel Diode Characteristics

Symbol	Parameter	Min.	Typ.	Max.	Units	Test Conditions
V _F	Forward Voltage	–	1.8	2.5	V	I _F =15 A, V _{GE} =0 V
I _{rrm}	Maximum Reverse Recovery Current	–	12	–	A	I _F =15 A, di _F /dt=0.4 A/ns, V _{GE} =0 V, T _J =25 °C
t _{rr}	Diode Reverse Recovery Time	–	100	300	ns	
Q _{rr}	Diode Reverse Recovery Charge	–	0.6	–	μC	

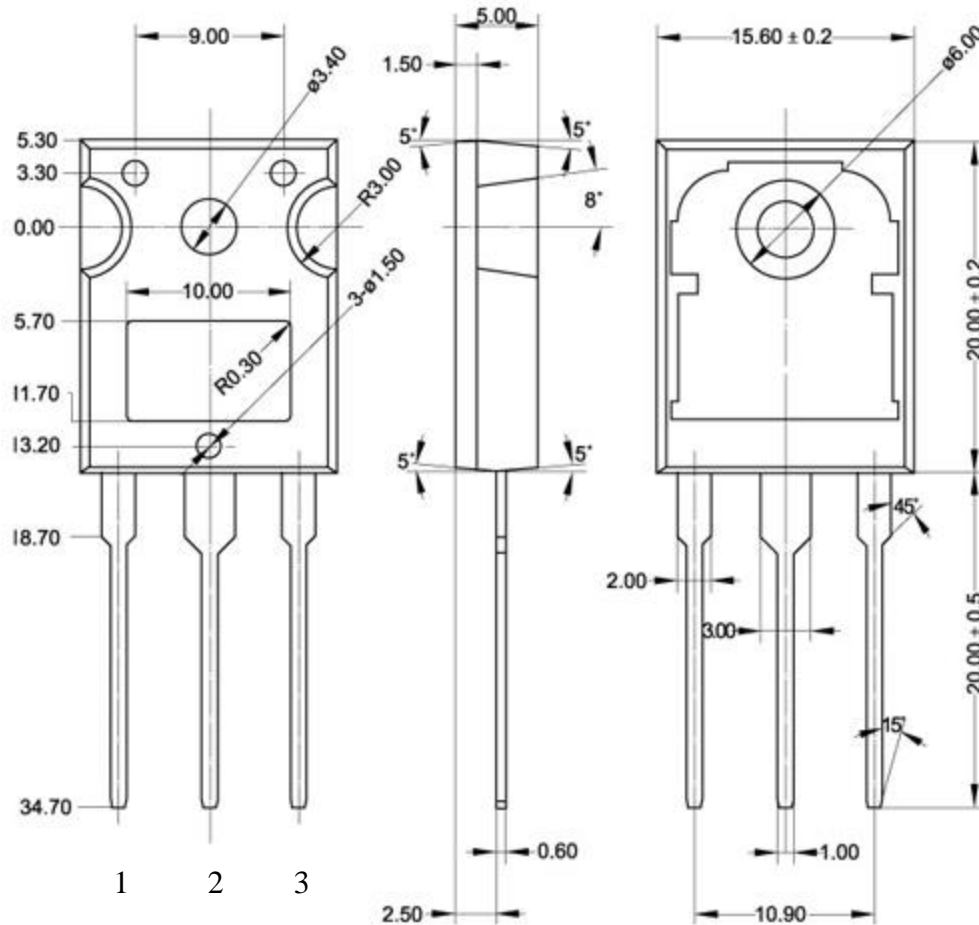
Precious metal content into 1000 pieces:

Gold _____ g;

Silver _____ g.



Case Outline and Dimensions - TO-247



NOTE:

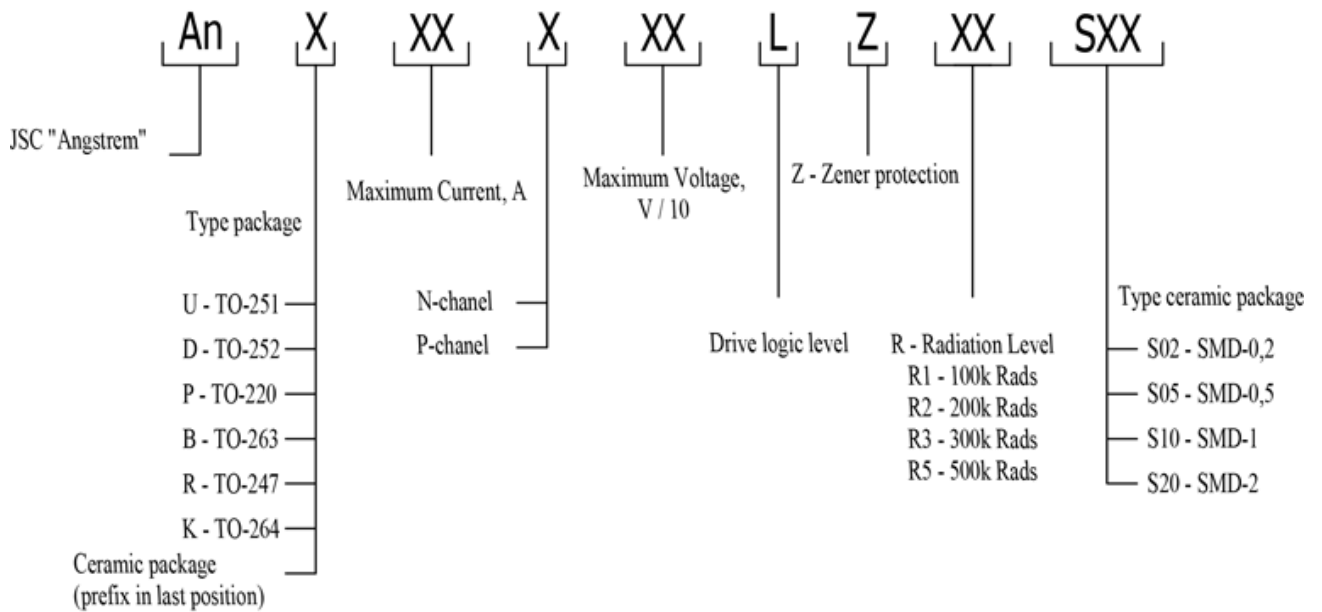
1 Dimensions are shown in millimeters.

PAD ASSIGNMENTS

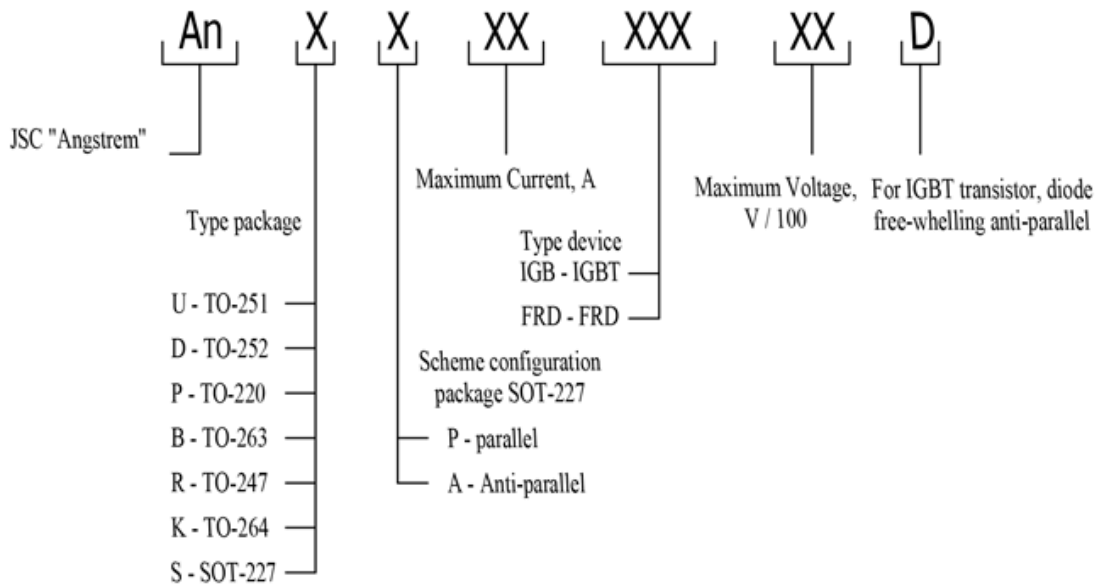
- 1 = GATE
- 2 = COLLECTOR
- 3 = EMITTER



Description name MOSFET



Description name IGBT & FRD



- Sample:
- AnB7N60 - MOSFET N-channel, 7A, 600V, package TO-263
 - An10N70R1S10 - MOSFET N-channel, 10A, 700V, Radiation level 100k Rads, package SMD-1
 - AnR75IGB12 - IGBT, 75A, 1200V, package TO-247
 - An50FRD17 - FRD, 50A, 1700V, chip
 - AnSP100FRD04 - FRD, 200A, 400V package SOT-227 configuration two diode parallel